

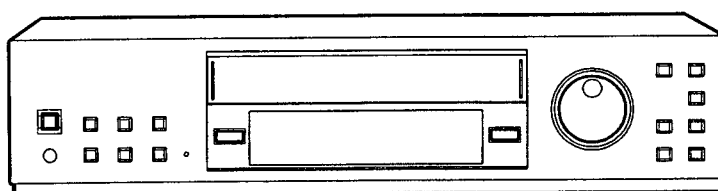


Service Manual

TIME LAPSE VIDEO CASSETTE RECORDER



PAL



MODEL

HS-1024E

HS-1024E(B)

Only cassettes marked VHS can be used with this video cassette recorder.

SPECIFICATIONS

Tape Format	: VHS 1/2" high-density video cassette tape	Audio Output	: 388mV(rms), 1k Ω unbalanced RCA pin plug
Power Source	: 100 to 230V $\pm$ 10% AC ; 50/60Hz	Operating Temperature	: 41°F to 104°F
Power Consumption	: Approx. 18W	Relative Humidity	: MAX. 80%
Television System	: CCIR standard 625lines, 50fields PAL type colour signal	Weight	: Approx. 9.0 lbs.
Heads-Video	: 4 rotary heads	Dimensions	: 425(W) $\times$ 95(H) $\times$ 314(D) mm
Luminance Signal	: Frequency modulation recording	Display Position	: In any position
Colour Signal	: Low frequency conversion, sub-carrier phase shift recording	Timer Programme	: 8 programmes-Daily start and stop time for one week.
Audio Recording System	: 1 full track head, recording system	Battery Back Up Deck	: Lasts 31 days : α Deck
Erase	: 1 full track head		
Audio Track	: 1 track		
Fast Forward / Rewind Time	: Approx. 120sec. with E-180 cassette	Tape Speed and Recording Time (with E-180 cassette)	
Video Input	: 1.0V(p-p), 75 Ω unbalanced BNC plug	<u>Mode</u>	<u>Time</u> <u>Speed (Drive)</u> <u>Recording Field/sec</u>
Audio Input	: 308mV(rms), 50k Ω unbalanced RCA pin plug	3H	3hrs 23.39mm/sec (Continuous) 50 fields
Video Output	: 1.0V(p-p), 75 Ω unbalanced BNC plug	L12H	15hrs 4.68mm/sec (Continuous) 10 fields
		L24H	27hrs 2.60mm/sec (Continuous) 5.6 fields

- Weight and dimensions shown are approximate.
- Design and specifications are subject to change without notice.

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CONTENTS

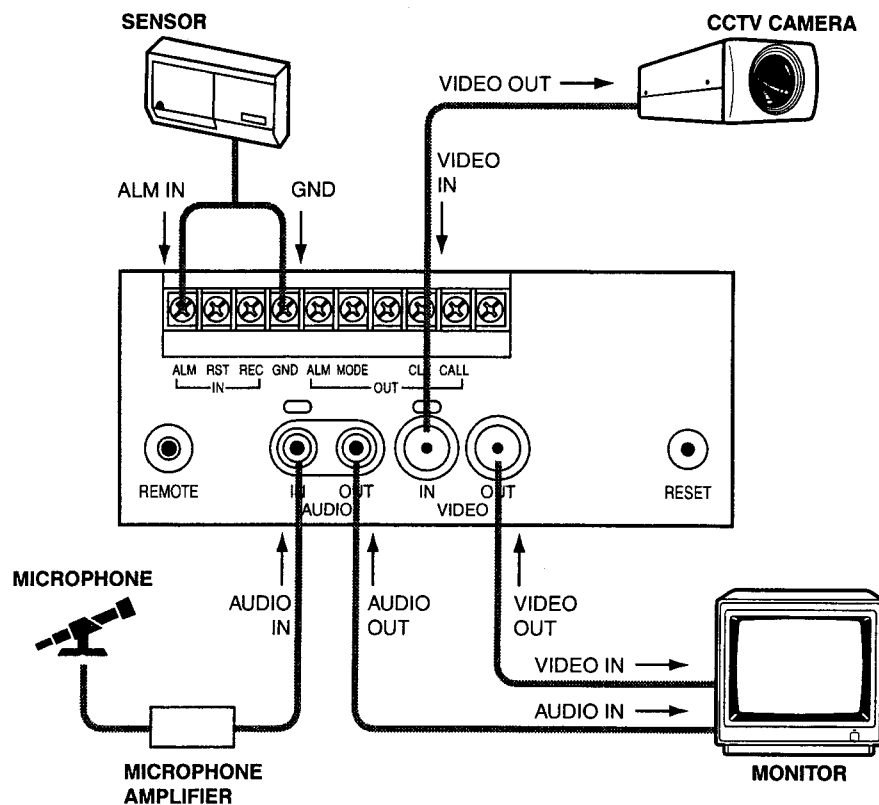
CONNECTIONS FOR VARIOUS FUNCTIONS	1
WARNING	2
CHECK PROCEDURE OF ELAPSED TIME	2
WARNING INDICATION	2
CONTROL INPUT/OUTPUT SIGNAL	4
CONTROL INPUT/OUTPUT SIGNALS AND CIRCUIT...	5
REMOTE CONTROLLER (OPTIONAL)	6
MAINTENANCE GUIDE	7
DISASSEMBLY	8
HOW TO EXECUTE CIRCUIT BOARD SERVICE	11
MECHANICAL ADJUSTMENT TOOLS	14
ELECTRICAL ADJUSTMENT TOOLS.....	14
SERVICE CAN BE EXECUTED WITH	
THE EE PICTURE DISPLAYED	15
DECK OPERATION CHECK	15
ELECTRICAL ADJUSTMENTS.....	16
LOCATIONS.....	17
Servo Circuit Adjustment.....	18
Timer Circuit Adjustment.....	18
Y/C signal Circuit Adjustment.....	19
Audio Circuit Adjustment.....	21
MECHANICAL ADJUSTMENT	
AND REPLACEMENT	22
1. DECK Cleaning.....	22
1-1 VIDEO HEAD	22
1-2 Tape Running System	22
1-3 REEL DISK Drive System	22
2. Replacement of Major Parts	23
2-1 CLEANING ARM, FELT RING.....	23
2-2 STAY PLATE.....	23
2-3 BOTTOM ASSY.....	24
2-4 INSERT GUIDE (TU)	25
2-5 INSERT GUIDE (SP)	25
2-6 REC HOLDER, REC LEVER, REC SPRING	26
2-7 F/L ARM ASSY, F/L BEARING	26
2-8 A/C HEAD UNIT	27
2-9 F/E HEAD.....	27
2-10 SENSOR COVER (TU)	28
2-11 SENSOR COVER (SP)	28
2-12 REVERSE UNIT (TU), REVERSE UNIT (SP)	29
2-13 MODE POSITION UNIT	29
2-14 REEL BELT, PULLEY BUSH, THRUST WASHER, BELT PULLEY, SHIFT SLIDER,	
PULLEY GEAR ASSY, SLIP GEAR, SLIP SPRING, SLIP WASHER, THRUST WASHER, SLIP ADJUSTER, IDLER UNIT	30
2-15 CAPSTAN BRAKE ASSY.....	32
2-16 FC HOLDER, MOTOR HOLDER, LOADING WORM, LOADING MOTOR ASSY, WORM WHEEL.....	33
2-17 PINCH ARM CAP, PINCH ASSY	34
2-18 F/L PLATE, DOOR ARM	34
2-19 BRAKE CAM PLATE	35
2-20 GUIDE LAMP	36
2-21 MAIN CAM, GUIDE ARM (TU), BRAKE LEVER, LB PIN.....	37
2-22 L/D LOCK LEVER	38
2-23 BRAKE BELT (SP), BELT HOLDER	38
2-24 BELT LEVER, BELT ADJUSTER	39
2-25 TENSION ARM, TENSION LEVER, TENSION SPRING, TENS AXIS HOLDER, REEL DISK (SP side).....	39
2-26 BRAKE BELT (TU)	40
2-27 BRAKE (TU), REEL DISK (TU side)	40
2-28 SHIFT LEVER	41
2-29 CHARGE SPRING, SWING LEVER, CHARGE ASSY	42
2-30 SPACER PLATE, LOADING ARM ASSY (SP), LOADING ARM ASSY (TU)	42
2-31 A/L LEVER	43
2-32 TAPE GUIDE ASSY (SP), TAPE GUIDE ASSY (TU).....	45
2-33 GUIDE ARM (SP).....	45
2-34 DRUM CLAMPER, DRUM ASSY.....	46
2-35 DRUM MOTOR STATOR, BRUSH SPRING, SPACER, ROTOR CASE, END RING, BRUSH, UPPER DRUM ASSY	47
2-36 CAPSTAN MOTOR	48
3. Interchangeability Adjustment of the Mechanism.....	50
3-1 Adjustment of BACK TENSION and TENSION POLE's Position	50
3-2 Check and Adjustment of the FM Envelope	51
3-2-1 GUIDE ROLLER Adjustment Check	51
3-2-2 Height Adjustment of	

CONTENTS

GUIDE ROLLER (SP)	51
3-2-3 Height Adjustment of GUIDE ROLLER (TU)	51
3-2-4 Coarse Adjustment of Phase	52
3-2-5 Flatness Check of FM Waveform	52
3-2-6 Tape Running Condition at the GUIDE ROLLERS (Check1)	53
3-2-7 Tape Running Condition at the GUIDE ROLLERS (Check 2)	53
3-3 A/C HEAD Adjustment	54
3-3-1 Slant Adjustment of A/C HEAD	54
3-3-2 Azimuth and Height Adjustment of A/C HEAD	54
3-4 Phase Adjustment	55
3-5 Tape wrinkle check	55
4. Servicing for Tape Jam during the Loading Process	56
GLOSSARY OF ABBREVIATIONS	57
CHIP PARTS REPLACEMENT	58
PARTS LIST	60
1. CABINET ASSEMBLY	61
2. PACKING PARTS	62
3. ELECTRICAL PARTS	64
DECK ASSEMBLY-1	A-1
DECK ASSEMBLY-2	A-2
SCHEMATIC DIAGRAMS	
PRINTED CIRCUIT BOARD PARTS LAYOUT	

Connections for Various Functions

Connecting with CCTV camera, monitor and sensor



Note

- Monitor to be connected
 - Connecting with a CCTV monitor (for surveillance) is recommended.
 - Connecting with some monitors may cause picture vibration and/or picture distortion at the top or bottom of the image at still picture or normal playback.
 - A television for domestic use may easily cause picture vibration and distortion.
- CCTV camera to be connected
 - Do not connect 'Colour' and 'Black & White' cameras together.

WARNING

Use the specified batteries.

Batteries of wrong type can lead to explosion.

Be sure to replace with batteries of the same type or equivalent batteries. Use the parts specified in the circuit diagram or parts list.

Confirm that the batteries are placed with their positive (+) and negative (-) in the correct position.

CHECK PROCEDURE OF ELAPSED TIME

<MAINTENANCE>

POWER LOSS LIST

ALARM LIST

ALL MENU INITIALISE

POWER LOSS LIST CLEAR

ALARM LIST CLEAR

<REPEAT REC TIMES>

0

<ELAPSED TIME>

0H

1. Press the DISPLAY button to display the "MAIN MENU".
2. Turn the JOG to select the "MAINTENANCE".
3. Turn the SHUTTLE to right.
4. The "<ELAPSED TIME>" is displayed.
5. Press the DISPLAY button.

Note: The "<ELAPSED TIME>" counts up to 89,999 hours.

WARNING INDICATION

Self-Detection Function

This model has a function to detect internal malfunctions.

If any malfunction occurs inside the set, the state of malfunction is displayed on the fluorescent display or the monitor.

Press the COUNTER-RESET button on the front panel for 10 seconds or more to indicate the latest malfunction. The number that indicates the type of the malfunction as well as the warning indication mark "■" are displayed on the fluorescent screen.

Again press the COUNTER-RESET button for 10 seconds or over to cancel the indication.

No.	FLUORESCEN T DISPLAY	MONITOR	MALFUNCTION	STATE
				REMEDY
1	End	TAPE END	TAPE END DURING RECORDING	Tape stops at the tape end during recording. Rewind the tape or eject the tape.
3	"no Slg"blinks	NO SIGNAL	LOSS OF VIDEO SIGNAL INPUT	Loss signal continues for 5 seconds or over during recording. Input the video signal or stop recording. *1
4	"CLOg"blinks	---	Clogging	Clogging at the video head can not be removed. Remove the clogging or stop recording.
6	blink	CHECK	LOADING MOTOR SYSTEM TROUBLE	Deck is on the wrong position during recording or when recording starts. Carry out playback, recording, FF, or REW or turn on/off the power.*1
7	blink	CHECK	CAPSTAN MOTOR SYSTEM TROUBLE	Capstan motor does not rotate during recording. Carry out playback, recording, FF, or REW or turn on/off the power.*1
8	blink	CHECK	DRUM MOTOR SYSTEM TROUBLE	Drum motor does not rotate during recording. Carry out playback, recording, FF, or REW or turn on/off the power.*1
5,9	blink	CHECK	LOOSE TAPE	Tape is suffered from troubles such as looseness during recording. Carry out playback, recording, FF, or REW or turn on/off the power.*1
10	blink	---	SHORT CIRCUIT	Power supply (SW5V, SW12V) short-circuit. Disassemble for repair.
11	blink	---	TAPE CUTTING	Tape cutting Press input button. *2

*1: If the indication "WARNING" does not disappear even after the appropriate countermeasure, disassemble the set for repair.

*2: Input button : Rec, Play, FF, Rew, Power On.

1. TAPE END

<FIRST TIME SET UP>

The indication appears for the following conditions;
item "TAPE END", on the screen, is set to "STOP",
alarm is input once or more times while set to "ALM PROT", and
timer recording is implemented while it is set to "REWIND".

3. LOSS OF VIDEO SIGNAL INPUT

When the video signal is turned off during recording for 5 seconds or more, the "NO SIGNAL" appears on the monitor.

4. CLOGGING

When the clogging at the video head can not be removed during the intermittent recording for more than L12H at the SP mode by operating the cleaning 4 times.

6. LOADING MOTOR SYSTEM TROUBLE

When wrong loading system is detected, the intended mode is selected after returning the tape to the "CASSETTE-IN" position and loading it again. If the problem is not eliminated after this operation is repeated twice, the indication "CHECK" appears on the monitor.

5, 9. LOOSE TAPE

When looseness or transfer error is detected, the following operation is made after the tape is returned to the "CASSETTE-IN" position and loaded again;

- When SP mode is selected for recording, the original mode is selected after recording at 3H mode for 5 seconds. If the problem is not eliminated after this operation is repeated two times, the indication "CHECK" appears on the monitor.

CONTROL INPUT/OUTPUT SIGNAL

No.	SIGNAL	Terminal	USAGE
1	ALARM INPUT	ALARM IN	Start alarm recording
2	RESET INPUT	RST IN	Finish alarm recording / Adjusting the time on the screen
3	RECORD INPUT	REC IN	Start/stop recording or series recording
4	ALARM OUTPUT	ALM OUT	Output while alarm recording is under way
5	MODE OUTPUT	MODE OUT	Indication of VCR selected mode
6	CLOCK OUTPUT	CLK OUT	Command camera switching
7	CALL OUTPUT	CALL OUT	External warning device or for series recording

Clock output cycle during recording (CLK OUT)

The clock output cycle during recording is variable according to the specified value of "CLOCK OUT" in REAR TERMINAL of MAIN MENU. Refer to the below table.

When setup of "CLOCK OUT" is "REC".

Mode		Specified value of CLOCK OUT in REAR TERMINAL of MAIN MENU													
		1	2	3	4	5	10	15	20	25	30	50	60	F	
Record	3H	(Drum - FF cycle) × (Setting value)												(Drum - FF cycle) × (1/2)	
	L12H/L24H	(Recording interval) ★ × (Setting value)												(Recording interval) ★	
Except Record		Fix to H level													

When setup of "CLOCK OUT" is "T/L-REC".

Mode		Specified value of CLOCK OUT in REAR TERMINAL of MAIN MENU													
		1	2	3	4	5	10	15	20	25	30	50	60	F	
Record	3H	Fix to H level													
	L12H/L24H	(Recording interval)★ × (Setting value)											(Recording interval)★		
Except Record		Fix to H level													

★ The recording interval in each REC/PLAY mode are as follows.

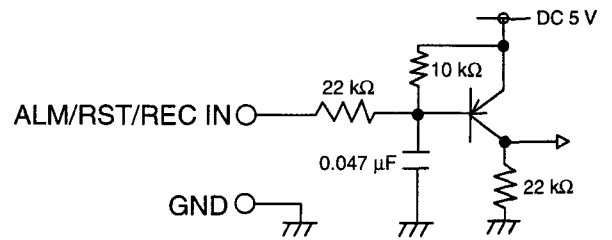
When playback a tape that is record in SP mode, it can playback in 3H mode only.

REC mode	Recording time	Recording interval
3H	3 hours	1 field
L12H	15 hours	5 field
L24H	27 hours	9 fields

Control Input/Output Signals and Circuit

ALM/RST/REC IN terminals (screw)

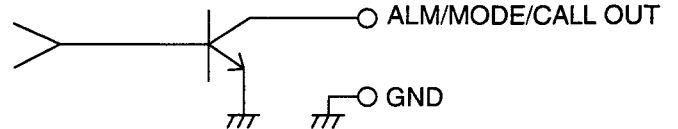
- Active : When input terminals are short-circuited to GND or "L" level voltage (0 to + 1.6 V) applied.
 Time for active : 0.1 sec. or over.
 Non active : Open the input.



<Interface circuit inside the VCR>

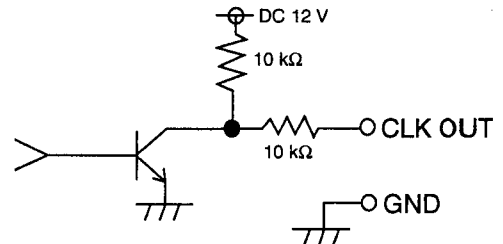
ALM/MODE/CALL OUT terminals (screw)

- Active : "L" level voltage (0 to + 0.4 V) output; max. drive current 50 mA (+5 V DC)/10 mA (+24 V DC)
 Non active : Open; max. voltage +24 V DC



<Interface circuit inside the VCR>

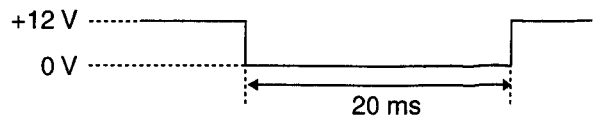
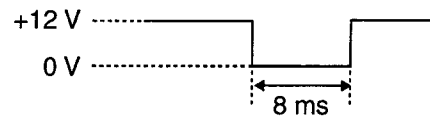
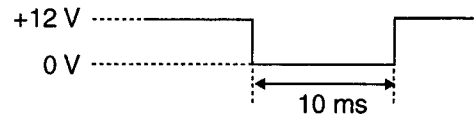
CLK OUT terminals (screw)



<Interface circuit inside the VCR>

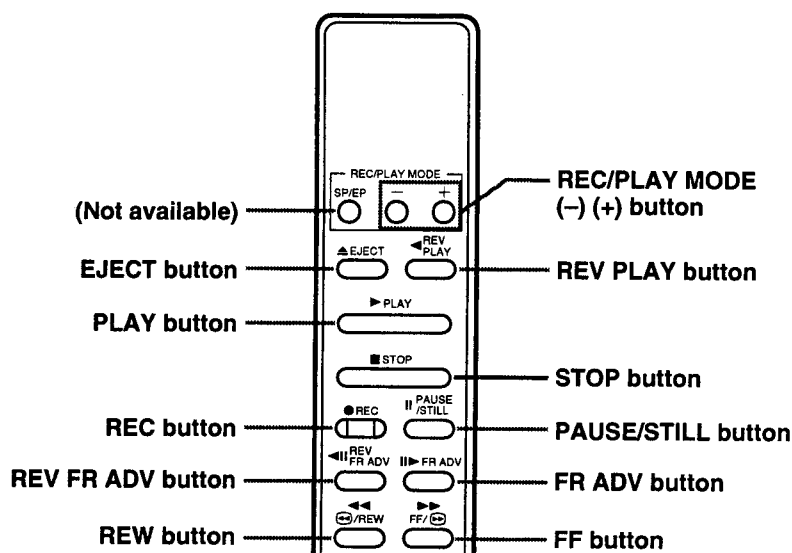
CLK OUT signal

- When F is selected in CLOCK OUT of REAR TERMINAL menu (at 3H mode).
- During recording in L12H or L24H mode.
- When REC-1 to REC-60 is selected in CLOCK OUT of REAR TERMINAL menu (at 3H mode).



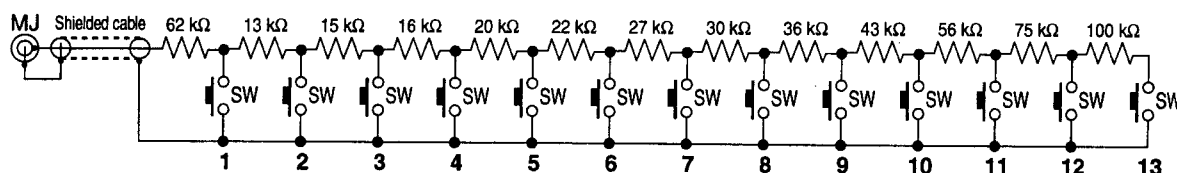
Remote Controller (Optional)

The optional remote controller (R-9100) provides remote operation of the VCR. Connect to the REMOTE terminal at the VCR's rear panel before use.



Remote Jack

■ Circuit



- 1) Resistor : Metal film resistor 1/4 W, resistance tolerance $\pm 1\%$
Temperature factor ± 100 PPM/ $^{\circ}$ C
- 2) Button switch : Momentary
- 3) Connector MJ : Miniature jack, 2.5 mm in diameter, comply with JISC6560

■ Operational conditions

- 1) Isolation resistor : 200 MΩ or over (in connector MJ)
- 2) Floating capacity : 0.1 μ F or under (in connector MJ)
- 3) Environmental temperature : 5-40 $^{\circ}$ C (common with VCR)
- 4) Relative temperature : Max. 80 % (common with VCR)

■ Remote control switch functions

Position	Function	Position	Function
1	EJECT	9	FORWARD FRAME SHIFT
2	STOP	10	REVERSE FRAME SHIFT
3	RECORDING	11	(+) REC/PLAY MODE
4	PAUSE	12	(-) REC/PLAY MODE
5	PLAYBACK	13	(Not available)
6	REVERSE PLAYBACK		
7	FAST FORWARD		
8	REWIND		

MAINTENANCE GUIDE

[○ : CLEANING ● : CHECK & ADJUSTMENT ⊙ : REPLACEMENT □ : GREASING]

SPECIFICATION	EXCHANGE TIME	HOUR												...	ONE YEAR
		500	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000				
TAPE PATH POLES (★1)	—	○	○	○	○	○	○	○	○	○	○		○		
CAPSTAN SHAFT (★1)		○	○	○	○	○	○	○	○	○	○		○		
VIDEO HEAD (★2)	1,000HOURS	○	⊙	○	⊙	○	⊙	○	⊙	○	⊙		⊙		
BRUSH (★2)			⊙		⊙		⊙		⊙		⊙		⊙		
LOWER DRUM ASSY (★3)	ONE YEAR	○	○	○	○	○	○	○	○	○	○		⊙		
A/C HEAD UNIT		○	○	○	○	○	○	○	○	○	○		⊙		
FE HEAD		○	○	○	○	○	○	○	○	○	○		⊙		
REEL BELT	4,000HOURS								⊙				⊙		
PINCH ASSY									⊙				⊙		
PULLEY GEAR ASSY									⊙				⊙		
SLIP GEAR									⊙				⊙		
IDLER UNIT									⊙				⊙		
BRAKE BELT (SP)									⊙				⊙		
BRAKE BELT (TU)									⊙				⊙		
REEL DISK									⊙				⊙		
CAPSTAN BRAKE ASSY									⊙				⊙		
CAPSTAN MOTER									⊙				⊙		
FELT RING									⊙				⊙		
SERVO CIRCUIT (★4)	—								●				●		
Interchangeability Adjustment of the Mechanism									●				●		
LOADING MOTOR ASSY	ONE YEAR												⊙		
DRUM MOTOR (★3)													⊙		
LOADING MECHANISM	—												□		

★1 Refer to 1. Cleaning the DECK of MECHANICAL ADJUSTMENT AND REPLACEMENT.

★2 Included in the UPPER DRUM ASSY of the ASSY DRUM.

★3 Included in the ASSY DRUM.

★4 Included in the PCB-MAIN.

Note : 1. Check tape running functions and performance such as picture and sound concerning each mode at inspection.

2. Disassembly for repair is required when the operating time exceeds approx. one year.

3. ⊙: Replace with new part at 4,000hrs or three years.

4. The exchange every 4,000hrs is recommended only over 24Hr mode used.

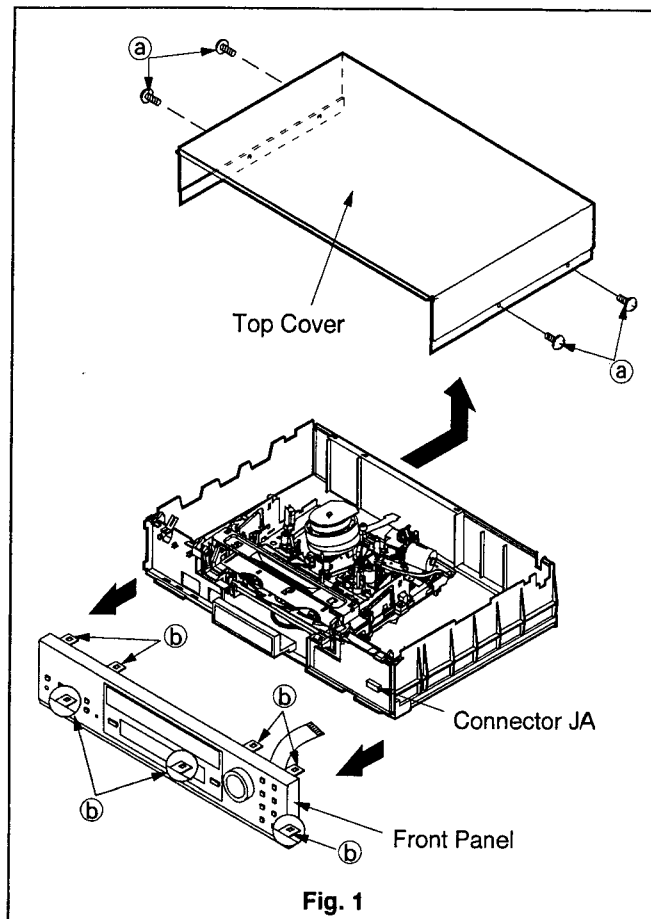
DISASSEMBLY

1. Removal of Top Cover

1. Remove the four Top Cover fastening screws (a) shown in Fig. 1 and remove the Top Cover in the direction shown by arrow.

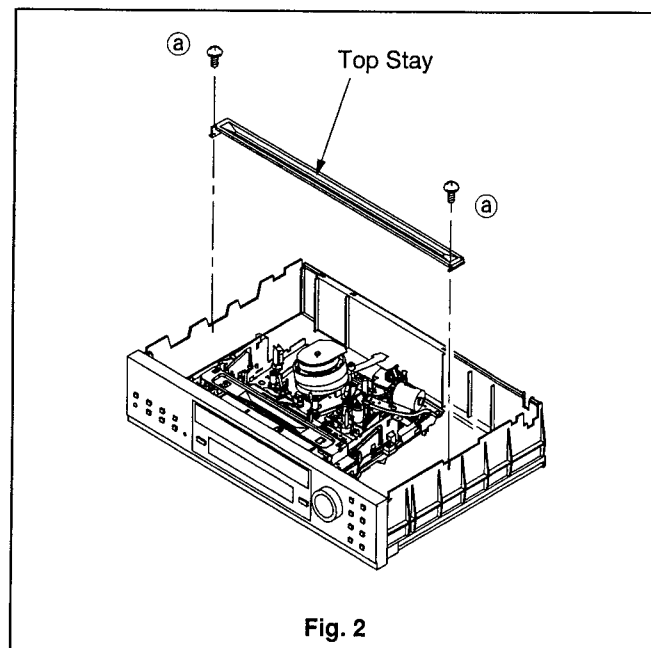
2. Removal of Front Panel

1. Remove the Top Cover.
(Refer to Para. 1 of the DISASSEMBLY.)
2. Unfasten the seven catches (b) shown in Fig. 1 and remove the Front Panel in the direction shown by arrows.
3. Disconnect the Connector JA shown in Fig. 1.



3. Removal of Top Stay

1. Remove the Top Cover.
(Refer to Para. 1 of the DISASSEMBLY.)
2. Unfasten the two Top Stay fastening screws (a) shown in Fig. 2 and remove the Top Cover.



4. Removal of Bottom Panel

1. Remove the Top Cover.

(Refer to Para. 1 of the DISASSEMBLY.)

2. Remove the two fastening screws (a) shown in Fig. 3.

3. Turn the set upside down as shown in Fig. 4.

4. Unfasten the two RS Cover fastening screws (b) shown in Fig. 4 and remove the RS Cover.

5. Unfasten the one Bottom Panel fastening screws (c) shown in Fig. 4

Note) Be sure to reattach the identical screw (c) that you removed.

Do not confuse the screws to prevent attaching other screws instead of the screw (c).

6. Push the one hook (d) toward inside. Slide the Bottom Panel backward to remove it, with taking care of the seven catches (e).

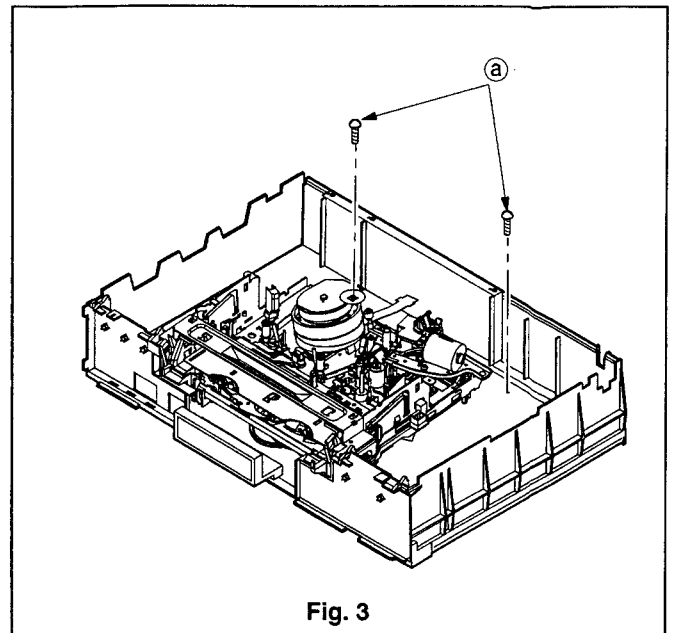


Fig. 3

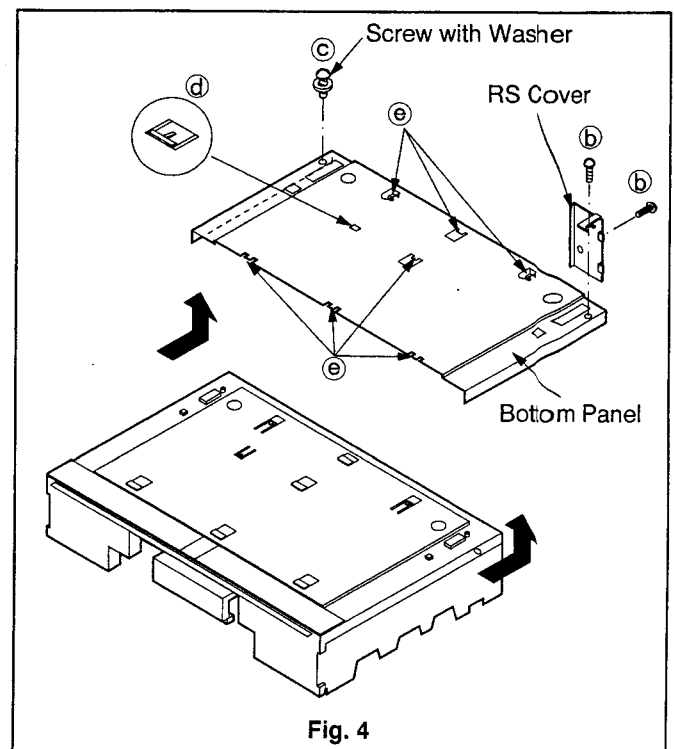


Fig. 4

5. Removal of DECK ASSY

1. Remove the Top Cover.
(Refer to Para. 1 of the DISASSEMBLY.)
2. Remove the Front Panel.
(Refer to Para. 2 of the DISASSEMBLY.)
3. Remove the Top Stay.
(Refer to Para. 3 of the DISASSEMBLY.)
4. Remove the two screws (a) shown in Fig. 5 and raise the Shield Cover to remove it.
5. Remove the four screws (b) shown in Fig. 6.
6. Disconnect the Connectors MA, MD, MH and ML.
7. Release the two catches (c) shown in Fig.6 and raise the DECK ASSY to remove it.

Note1: Remove the DECK ASSY paying attention to the Connectors MC and MF under it.

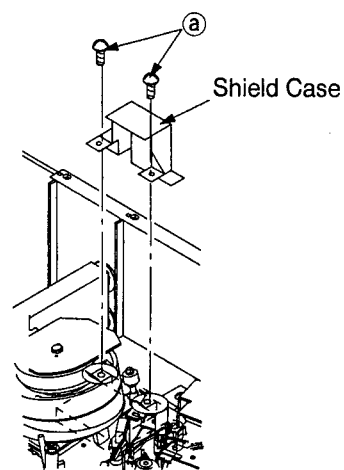


Fig. 5

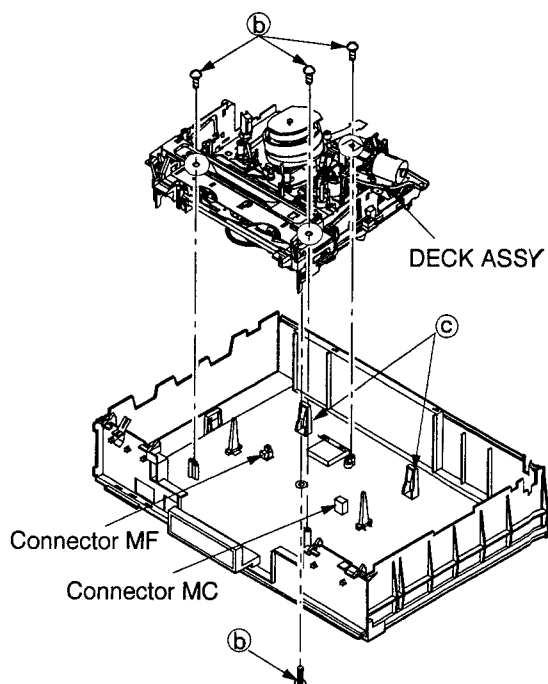


Fig. 6

HOW TO EXECUTE CIRCUIT BOARD SERVICE

CAUTION: BEFORE ATTEMPTING TO REMOVE OR REPAIR ANY PCB, UNPLUG THE POWER CORD FROM THE A.C. SOURCE.

LOCATION OF PRINT CIRCUIT BOARDS

Note :

- Take caution when removing flat cables to prevent any contact problem.
- Connect and disconnect the flat cables at right angles to the connector and make sure that it is completely secured.
- After servicing the PCB, restore the flat cable and leads to their former state.

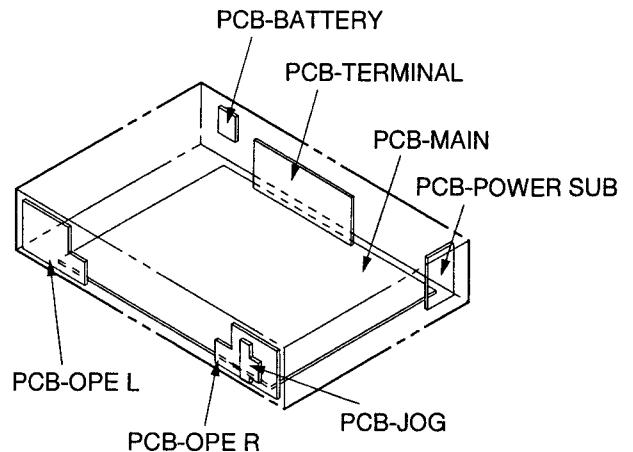


Fig. 7

1. PCB-OPE L

1. Remove the Top Cover.
(Refer to Para. 1 of the DISASSEMBLY.)
2. Remove the Front Panel.
(Refer to Para. 2 of the DISASSEMBLY.)
3. Remove the Connector JS.
4. Unfasten the two catches (a) shown in Fig. 8 and rotate the PCB-OPE L in the direction shown by arrow (b) and remove it in the direction shown by arrow (c).

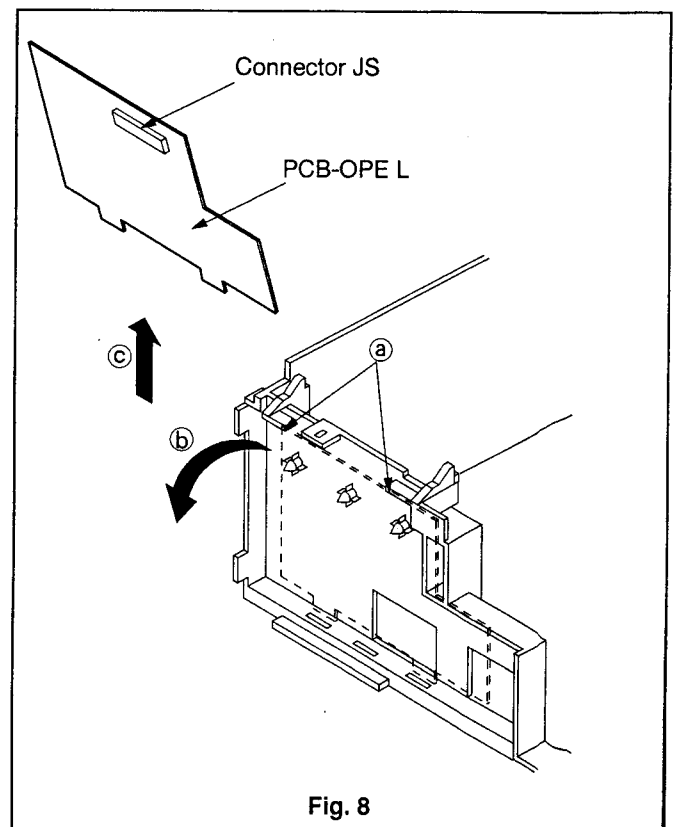
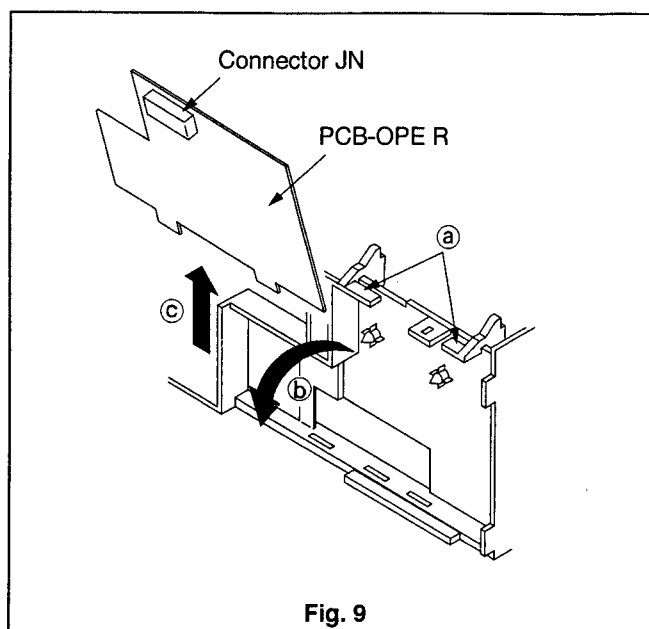


Fig. 8

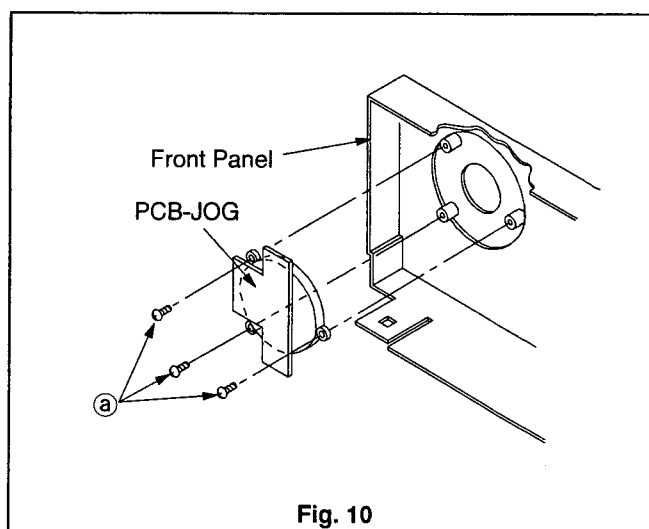
2. PCB-OPE R

1. Remove the Top Cover.
(Refer to Para. 1 of the DISASSEMBLY.)
2. Remove the Front Panel.
(Refer to Para. 2 of the DISASSEMBLY.)
3. Remove the Connector JN.
4. Unfasten the two catches (a) shown in Fig. 9 and rotate the PCB-OPE R in the direction shown by arrow (b) and remove it in the direction shown by arrow (c).



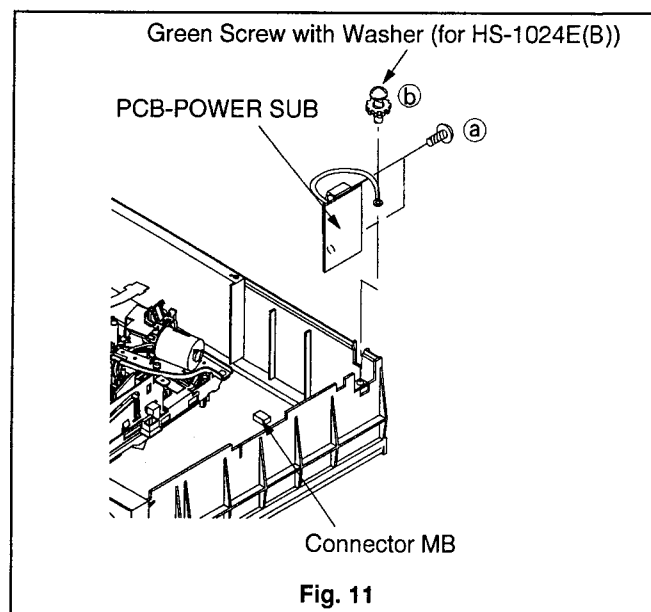
3. PCB-JOG

1. Remove the Top Cover.
(Refer to Para. 1 of the DISASSEMBLY.)
2. Remove the Front Panel.
(Refer to Para. 2 of the DISASSEMBLY.)
3. Unfasten the three screws (a) shown in Fig. 10 and remove the PCB-JOG.



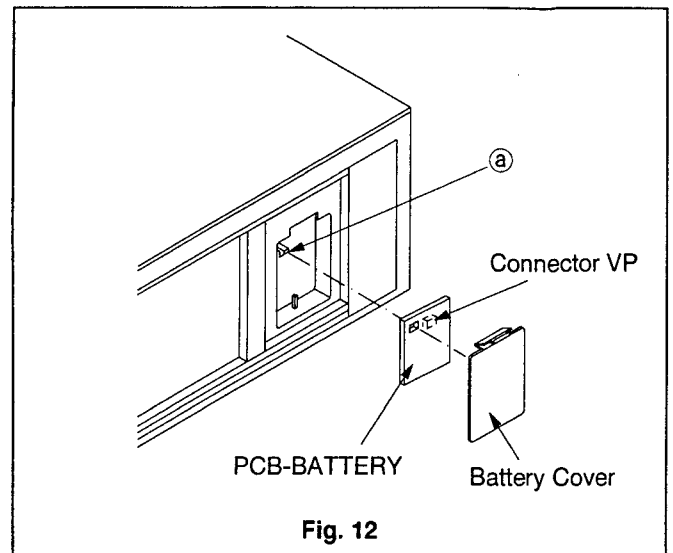
4. PCB-POWER SUB

1. Remove the Top Cover.
(Refer to Para. 1 of the DISASSEMBLY.)
2. Remove the Connector MB.
3. Unfasten the two screws (a) shown in Fig. 11.
4. Unfasten the screws (b) shown in Fig. 11. (for HS-1024E(B))
5. Remove the PCB-POWER SUB shown in Fig. 11.



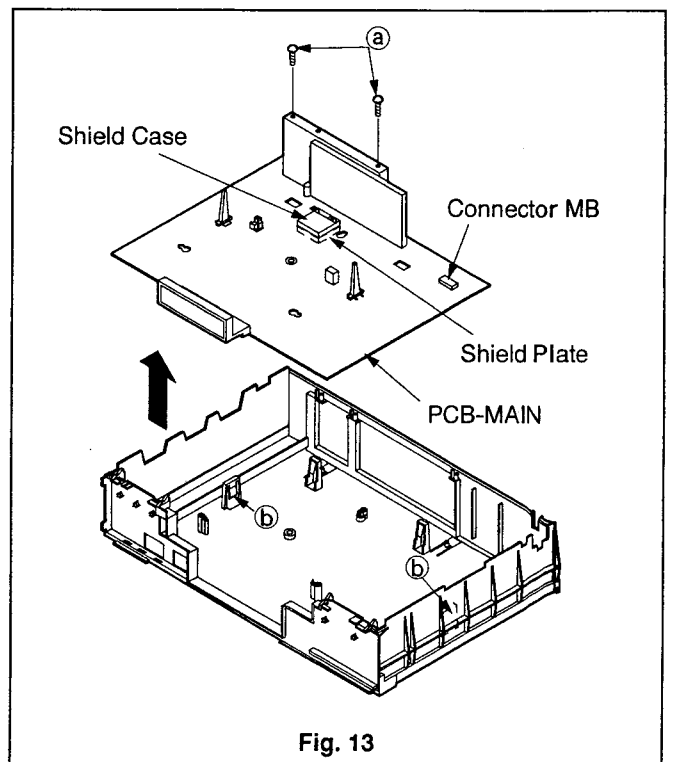
5. PCB-BATTERY

1. Remove the Battery Cover shown in Fig. 12.
2. Unfasten the one catch (a) shown in Fig. 12. and remove the PCB-BATTERY.
3. Remove the Connector VP.



6. PCB-MAIN

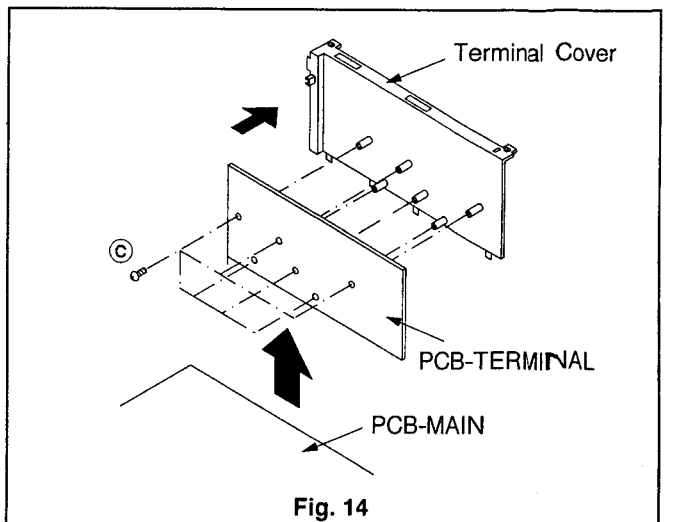
1. Remove the Bottom Panel.
(Refer to Para. 4 of the DISASSEMBLY.)
2. Remove the DECK ASSY.
(Refer to Para. 5 of the DISASSEMBLY.)
3. Remove the two screws (a) shown in Fig. 13.
4. Remove the Connector MB.
5. Remove the PCB-OPE L and PCB-OPE R.
(Refer to Para. 1 and 2 of the HOW TO EXECUTE CIRCUIT BOARD SERVICE.)
6. Release the two fastening catches (b) shown in Fig. 13. Raise the PCB-MAIN to remove it.
7. Release the six screws (c) shown in Fig. 14 and remove the Terminal Cover.
8. Remove the PCB-TERMINAL shown in Fig. 14.



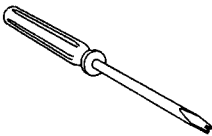
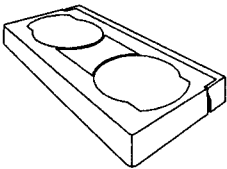
■ Service of Head Amp block

1. Unsolder the four soldered points of the Shield Case shown in Fig. 13 and remove it.
2. Unsolder the three soldered points of the Shield Plate shown in Fig. 13 and remove it.

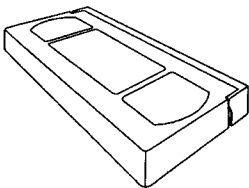
Note: Before checking the operation, mount the Shield Case and the Shield Plate in their original position. If not connected, beat or picture malfunction may appear.



MECHANICAL ADJUSTMENT TOOLS

	PURPOSE	METHOD
Adjustment Driver (859C259O80) 	For adjustment of guide rollers.	Carefully insert and adjust guide rollers.
Back Tension Gauge (859C345O80) 	The back tension gauge is used for measuring the tension of the tape on the supply side.	Load this gauge in the cassette housing and run in the play mode. Read the gauge indicator.
Cotton gloves	For changing, cleaning and handling of drum, heads and guides.	Use when handling all parts in the tape path.
Grease MULTEMP PG-641 (859D055O30) MULTEMP MOLYLOTE G PASTE (859D055O50) MULTEMP AC-DM (859D055O90)	Lubrication of various parts.	To be applied as specified.
Oil FLOIL (859D154O20)	Lubrication of various parts.	To be applied as specified.
Silicon compound SC102 (859D164O10)	Fix of various parts.	To be applied as specified.

ELECTRICAL ADJUSTMENT TOOLS

	PURPOSE	METHOD
Adjustment Driver (859C338O00) 767-M 	The adjustment driver is intended to adjust variable resistors, trimmers, transformers etc. in the circuitry.	Select a tip suitable for the particular head of the component concerned and adjust.
Alignment Tape (PS2 : 859C339O10) (PM6KH3 : 859C339O30) (PMX : 859C568O70) 	Standard signals (VHS Standard) are recorded on the alignment tape and reproduced when required in the adjustment of Servo circuit and interchangeability alignment.	Install and run in the play mode, the same as for an ordinary tape.

SERVICE CAN BE EXECUTED WITH THE EE PICTURE DISPLAYED

1. Turn off and unplug the VCR.
 2. Remove the DECK ASSY.
 3. Short TP5X and TP5Y shown in Fig.1
- [Note] Short TP5X and TP5Y before turning on the power.
4. Put the AC plug into the outlet, and turn on the VCR.

PCB-MAIN (Component side)

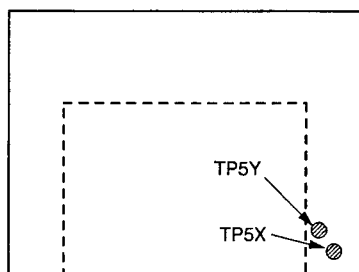


Fig.1

DECK OPERATION CHECK

Operation of the deck position and tape running systems can be checked according to the following method.

1. Short TP5T and TP5X shown in Fig.1
2. Press the RESET button on the rear panel.
3. For fast forward operation check, press the POSITION/VERTICAL ADJUST (+) button to make the CAPSTAN MOTOR rotate in the forward direction. For rewind operation check, press the POSITION/VERTICAL ADJUST (-) button to make the CAPSTAN MOTOR rotate in the reverse direction.
 - (+) button : Forward rotation is implemented.
 - (-) button : Reverse rotation is implemented.
4. Press the TRACKING (+) and (-) buttons to check the deck position.
 - TRACKING (+) button : Operation in the loading direction.
 - TRACKING (-) button : Operation in the unloading direction.
5. Open TP5T and TP5X shown in Fig.1
6. Press the RESET button on the rear panel.

PCB-MAIN (Component side)

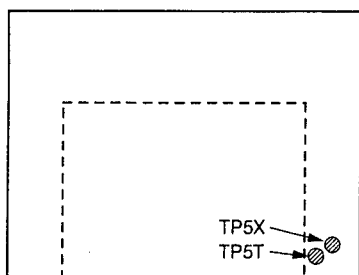


Fig.2

ELECTRICAL ADJUSTMENTS

Perform only the alignments required. If proper equipment is not available, do not attempt an alignment.

□ PRE-ADJUSTMENT SETTINGS

- * If otherwise specified, make adjustments under the following conditions.
- A-TAPE VHS TAPE (E-180) on the market.
- VIDEO Colour position.
- PICTURE VR (VR831) Centre click stop position.
- LOCK button OFF position.
- Display mode Non-characters display mode. (DISPLAY MODE 3 or 4)

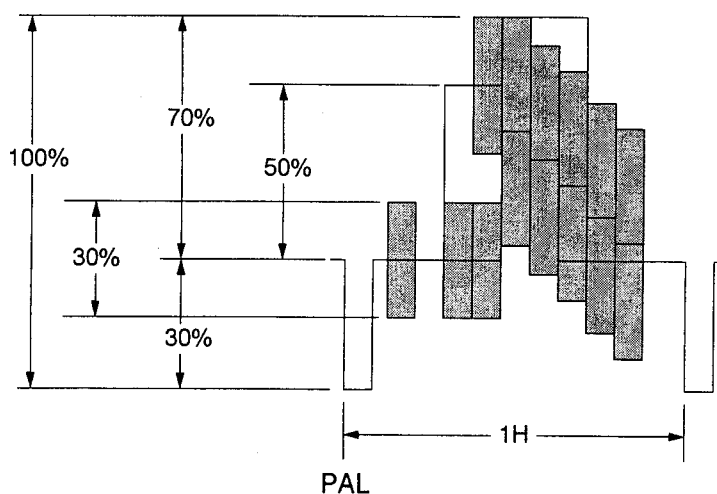
□ MEASURING EQUIPMENT

- Oscilloscope (10:1 probe unless 1:1 specified.)
- Signal generator
- Audio tester
- Frequency counter
- Direct current voltmeter
- Miscellaneous electrical tools
- Carrier checker

□ TEST SIGNAL

Colour bar signal

In this manual, unless otherwise specified in particular, use the colour bar signal specified below.

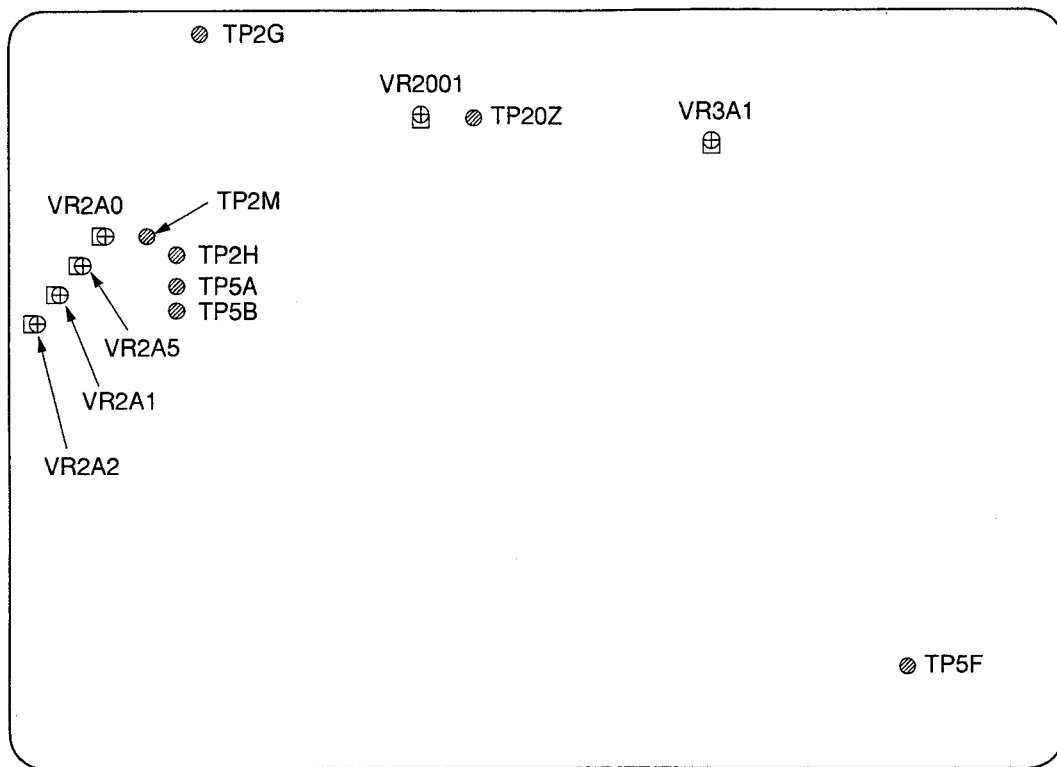


colour bar (with 100% window)

LOCATIONS

PCB-MAIN (Component side)

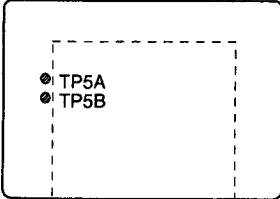
REAR



[Servo circuit] 1. Playback Switching Point		Adjustment purpose Video switch over timing during playback. Symptom when incorrectly adjusted Switching noise or jitter in the playback picture.
Measuring instrument and condition Oscilloscope		VCR set up condition Input signal --- Using tape Alignment Tape (PS2, stair step) VCR condition 3H Playback Using Jig ---
Test point	---	
EXT trigger	---	
Measurement range	---	

1. Set the VCR to 3H PLAY mode.
2. Play an Alignment Tape. (PS2, stair step)
3. Short TP5A to TP5B.
4. Push the TRACKING (+) and (-) buttons at the same time.
5. Confirm that the values 55 to 75 are displayed on the fluorescent display after approx 6 seconds.
6. Open TP5A to TP5B.

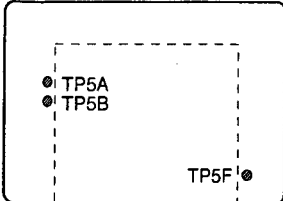
PCB-MAIN (Component side)



[Timer circuit] 2. Clock Frequency Correction		Adjustment purpose To set the accuracy of the clock. Symptom when incorrectly adjusted Poor clock accuracy.
Measuring instrument and condition Frequency Counter		VCR set up condition Input signal --- Using tape --- VCR condition Power off Using Jig ---
Test point	TP5F	
EXT trigger	---	
Measurement range	---	

1. Set the VCR to POWER off.
(With the tape ejected from the VCR.)
2. Short TP5A to TP5B.
(Confirm that the " REC " is displayed in fluorescent display.)
3. Observe the frequency at TP5F.
4. Be certain that the frequency is between 374.9374 ~ 375.0626kHz.
5. Use the Jog dial and Shuttle ring to enter the last four digits of the frequency counter reading (374.ⒶⒷⒸⒹkHz).
Transfer to next subordinate figure's position, turn the shuttle-ring to clockwise direction and enter the digits in ⒶⒷⒸⒹ sequence.
6. Push the REC button on the VCR.
(Confirm that the " REC " is displayed in fluorescent display.)
7. Open TP5A to TP5B.

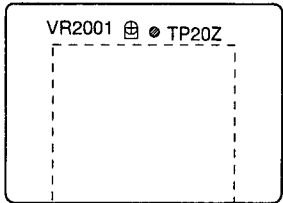
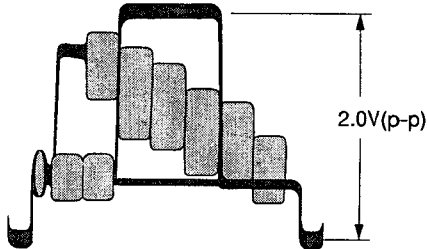
PCB-MAIN (Component side)



[Y/C signal circuit] 3. CG-AGC		Adjustment purpose Setting output level of the CG circuit. Symptom when incorrectly adjusted Too bright or too dark picture.	
Measuring instrument and condition		VCR set up condition	
Oscilloscope		Input signal	Video signal (Color bar)
Test point	TP-20Z	Using tape	---
EXT trigger	---	VCR condition	STOP
Measurement range	DIV 50mV TIM 10μs	Using Jig	---

1. Supply a video signal (Colour bar).
 2. Observe the waveform at TP-20Z.
 (The probe must be grounded to TP2G.)
 3. Adjust VR2001 so that the amplitude of waveform is 2.0V(p-p).

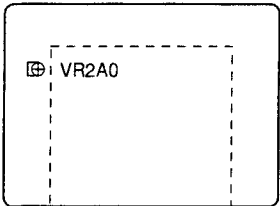
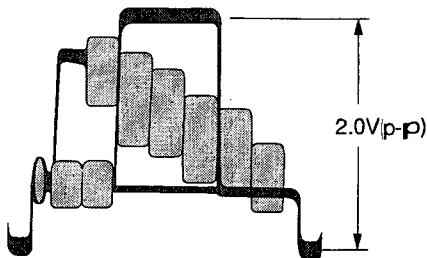
PCB-MAIN (Component side)

[Y/C signal circuit] 4. EE Out put Level		Adjustment purpose To set output level of video signal at STOP mode. Symptom when incorrectly adjusted Too bright or too dark image : incorrect color.	
Measuring instrument and condition		VCR set up condition	
Oscilloscope		Input signal	Video signal (colour ber)
Test point	VIDEO OUT terminal	Using tape	---
EXT trigger	---	VCR condition	STOP
Measurement range	DIV 20mV TIM 50μs	Using Jig	---

1. Supply a video signal (colour ber).
 2. Be certain that nothing is connected to the VIDEO OUT terminal.
 3. Observe the waveform at VIDEO OUT terminal.
 4. Adjust VR2A0 so that the amplitude of waveform is 2.0V(p-p).

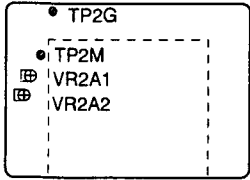
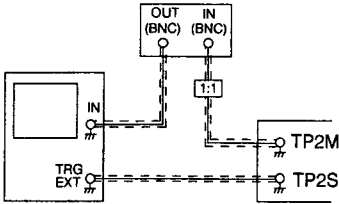
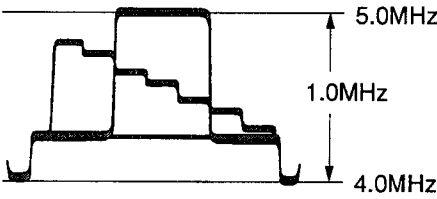
PCB-Y/C (Component side)

[Y/C signal circuit] 5. Carrier set, Deviation		Adjustment purpose FM carrier frequency and deviation.	Symptom when incorrectly adjusted Too bright or too dark picture. Horizontal noise or loss of sync.
Measuring instrument and condition		VCR set up condition	
Oscilloscope (Probe 1:1)		Input signal	Video signal (Colour bar)
Test point	TP2M	Using tape	A tape
EXT trigger	TP2S	VCR condition	3H REC
Measurement range	DIV 0.2V TIM 10μs	Using Jig	Carrier Checker

1. Supply a video signal (Colour bar).
2. Set the VCR to 3H REC mode.
3. Observe the waveform at TP2M using a carrier checker.
(The probe must be grounded to TP2G.)
4. Adjust VR2A1 so that the sync tip is at 4.0MHz.
5. Adjust VR2A2 so that the peak white is at 5.0MHz.

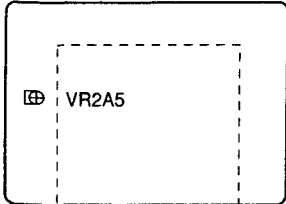
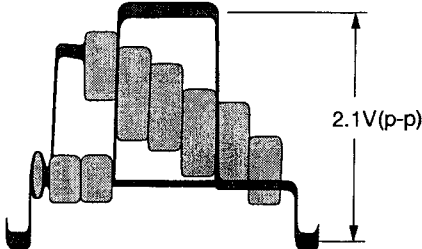
PCB-Y/C (Component side)

[Y/C signal circuit] 6. Playback Demodulation Sensitivity		Adjustment purpose Setting each output level to the same when playing a tape recorded in VHS.	Symptom when incorrectly adjusted Both Y signal and color signal will be played back incorrectly
Measuring instrument and condition		VCR set up condition	
Oscilloscope		Input signal	---
Test point	VIDEO OUT terminal	Using tape	Alignment Tape (PS2, Colour bar)
EXT trigger	---	VCR condition	3H Playback
Measurement range	DIV 50mV TIM 10μs	Using Jig	---

1. Set the VCR to 3H PLAY mode.
2. Be certain that nothing is connected to the VIDEO OUT terminal.
3. Play an alignment tape (PS2, Colour bar).
4. Observe the waveform at VIDEO OUT terminal.
(The probe must be grounded to TP2G.)
5. Adjust VR2A5 so that the amplitude of waveform is 2.1V(p-p).

PCB-Y/C (Component side)

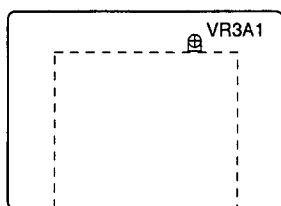
[Audio circuit]		Adjustment purpose	Audio level during playback.
7. Playback Audio Level		Symptom when incorrectly adjusted	Too loud or too low audio level during playback.

Measuring instrument and condition		VCR set up condition	
Audio tester		Input signal	---
Test point	AUDIO OUT terminal	Using tape	Alignment Tape (PS2, Colour bar)
EXT trigger	---	VCR condition	3H Playback
Measurement range	---	Using Jig	---

1. Set the VCR to 3H PLAY mode.
2. Play an alignment tape (PS2, Colour bar).
3. Observe the audio level at AUDIO OUT terminal.
4. Adjust VR3A1 so that the audio output level is 388mV(rms) (-6dBs).

Note: Check that the level fluctuation is less than $\pm 1\text{dB}$. if level fluctuation is over $\pm 1\text{dB}$ then check the A/C HEAD slant adjustment.

PCB-MAIN (Component side)



MECHANICAL ADJUSTMENT AND REPLACEMENT

1. DECK Cleaning

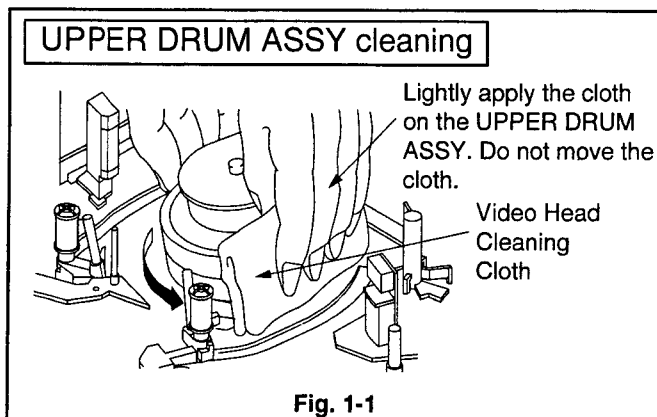
The following Parts require cleaning whenever serviced in order to maintain satisfactory performance.

1-1. VIDEO HEAD

1. Clean the VIDEO HEAD according to the following method. Dust and other foreign objects on the VIDEO HEAD disturb the normal PLAYBACK picture. To clean the VIDEO HEAD, hold a VIDEO HEAD cleaning cloth dampened with alcohol against the DRUM and slowly turn the DRUM counter-clockwise.

Note: Do not directly touch the HEADS installed to the UPPER DRUM ASSY. The HEADS are very hard but brittle to shock (especially to shock in the vertical direction) and easily breakable. Never apply force to it in the vertical direction.

2. Allow the residual alcohol to dry thoroughly before running a tape. The residual alcohol on the HEADs may damage the tape if not dried completely.



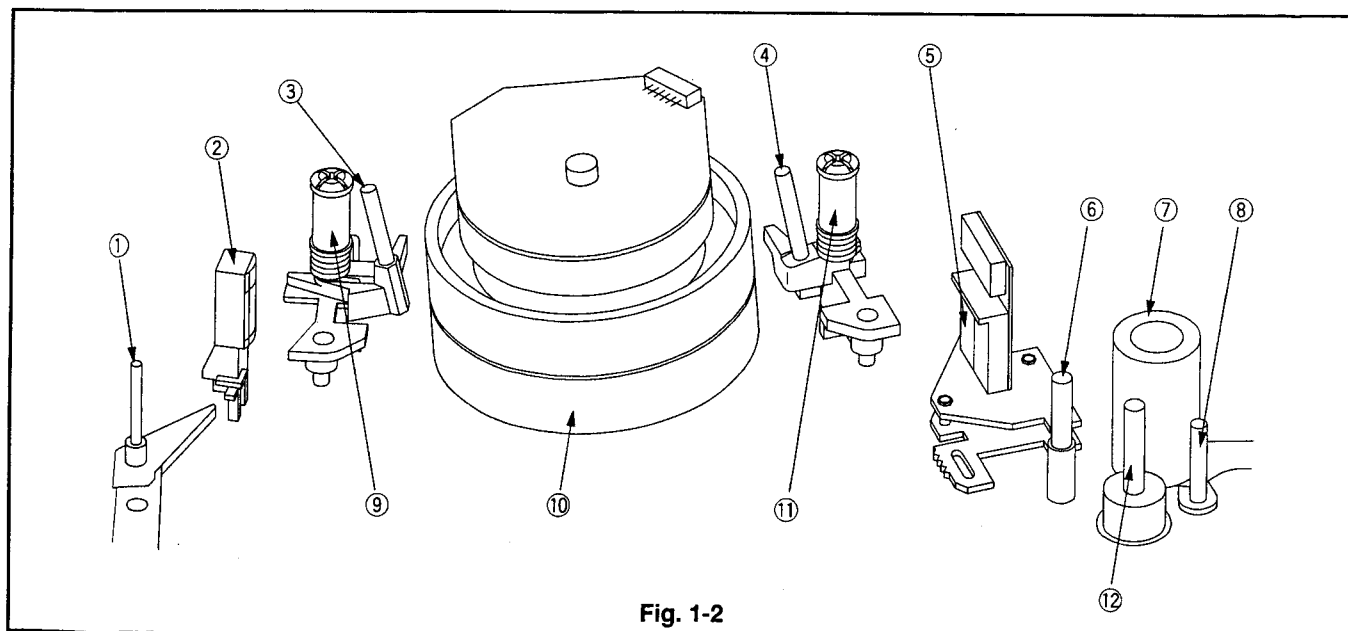
1-2. Tape Running System

Clean the following Parts of the Tape Running System.

1. TENSION PIN
 2. F/E HEAD
 3. SLANT POLE (SP)
 4. SLANT POLE (TU)
 5. A/C HEAD
 6. GUIDE POLE (TU)
 7. PINCH ROLLER
 8. GUIDE PIN (TU)
 9. GUIDE ROLLER (SP)
 10. UPPER / LOWER DRUM ASSY
 11. GUIDE ROLLER (TU)
 12. CAPSTAN SHAFT
1. Clean the Tape Running System, using a piece of gauze dampened with alcohol, except for the GUIDE ROLLER (SP), GUIDE ROLLER (TU), and PINCH ROLLER which require to be cleaned with a piece of dry gauze.
 2. Allow the residual alcohol to dry thoroughly before running the tape. The residual alcohol on the SYSTEM may damage the tape if not dried completely.

1-3. REEL DISK Drive System

1. Clean the BRAKE side and REEL BELT of the REEL DISK Drive System.
2. Clean the REEL DISK Drive System, using a piece of gauze dampened with alcohol, except for the REEL BELT which requires cleaning with a piece of dry gauze.
3. Allow the residual alcohol to dry thoroughly before operation.



2. Replacement of Major Parts

2-1. CLEANING ARM, FELT RING

SET POSITION : Normal

(Removal)

1. Release the two catches (a) of the CLEANING ARM shown in the Fig. 2-1 to remove the CLEANING ARM.
2. Release the two catches (b) of the CLEANING ARM shown in the Fig. 2-1 to remove the FELT RING.

(Installation)

1. Install the FELT RING shown in the Fig. 2-1 to the CLEANING ARM.
2. Install the CLEANING ARM shown in the Fig. 2-1.

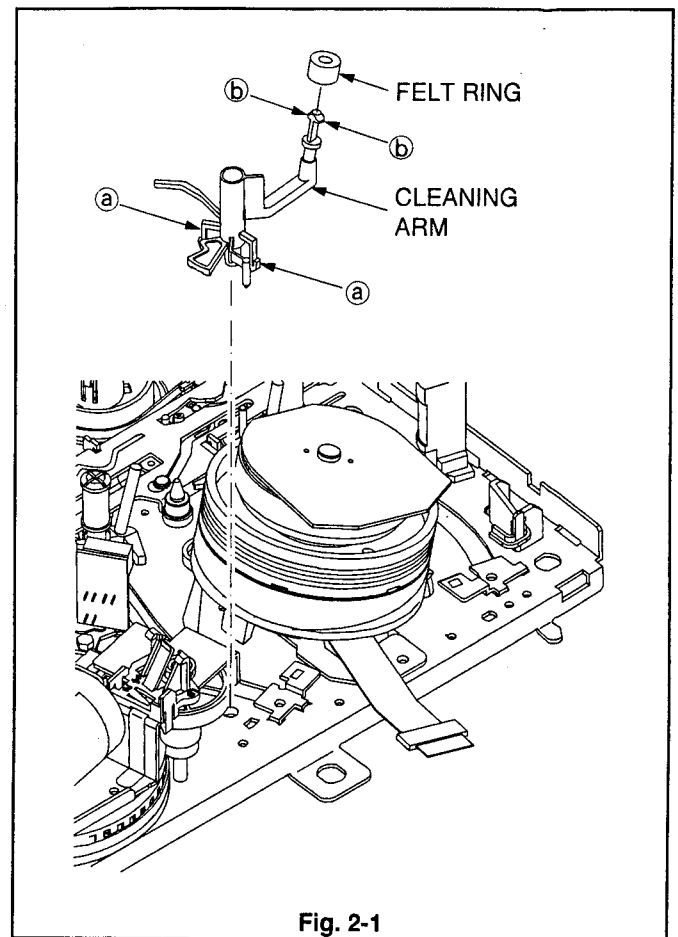


Fig. 2-1

2-2. STAY PLATE

SET POSITION : Normal

(Removal)

1. Remove the two screws (a) fastening the STAY PLATE shown in the Fig. 2-2 to remove the STAY PLATE.

(Installation)

1. Install the STAY PLATE shown in the Fig. 2-2.

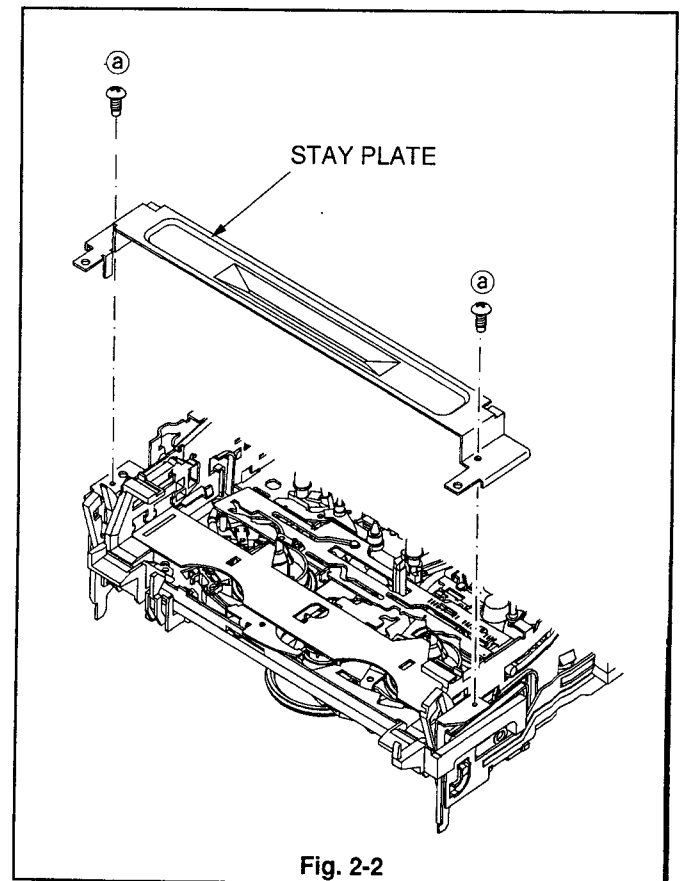


Fig. 2-2

2-3. BOTTOM ASSY

SET POSITION : Normal

Remove the following part before replacing the BOTTOM ASSY. Refer to the corresponding item to install it.

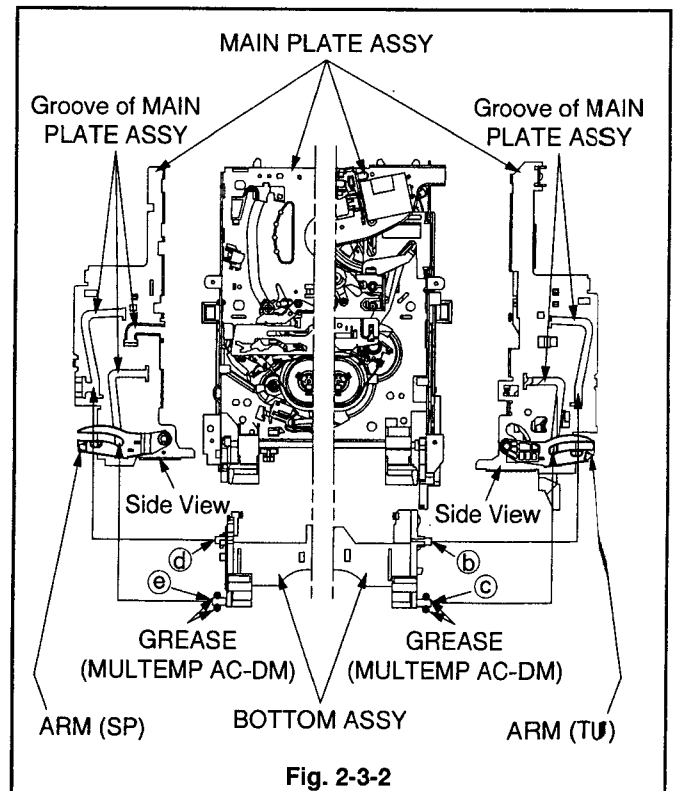
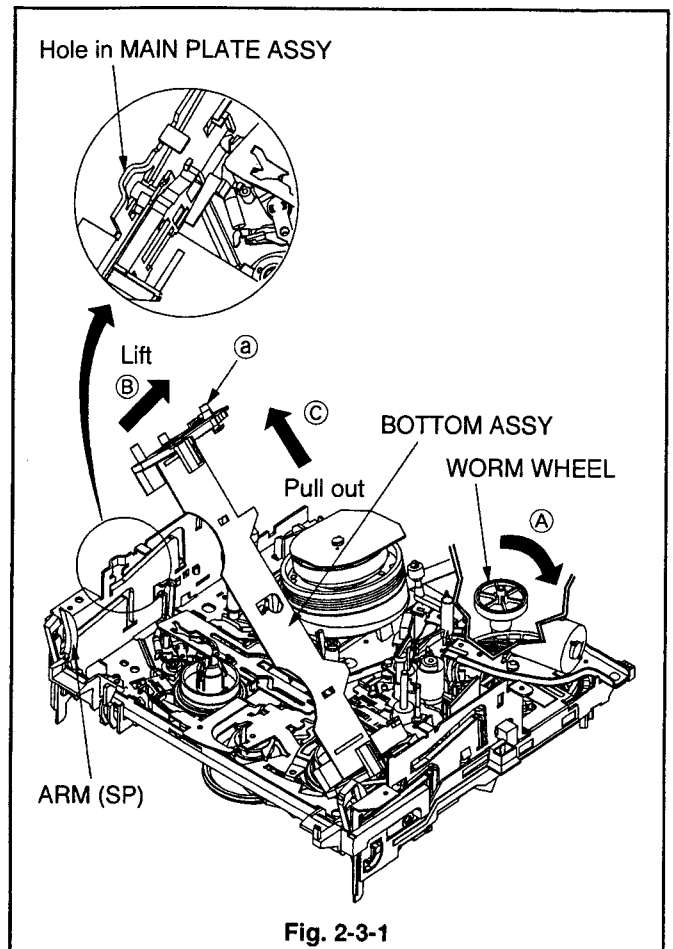
- STAY PLATE (Item 2-2)

(Removal)

1. Move the WORM WHEEL in the Fig. 2-3-1 in the direction shown by the arrow (A). And match the Boss (a) of the BOTTOM ASSY with the Hole in the MAIN PLATE ASSY.
2. Lift the BOTTOM ASSY in the Fig. 2-3-1 in the direction shown by the arrow (B) and pull it out in the direction shown by the arrow (C).

(Installation)

1. Apply GREASE (MULTEMP AC-DM)[859D055O90] to the Grooves of the MAIN PLATE ASSY shown in the Fig. 2-3-2.
2. Apply GREASE (MULTEMP AC-DM)[859D055O90] to the Bosses of the BOTTOM ASSY shown in the Fig. 2-3-2.
3. Rotate the WORM WHEEL shown in the Fig. 2-3-1 so that the ARM (SP) stands vertically.
4. Insert the Boss (b) of the BOTTOM ASSY shown in the Fig. 2-3-2 in the Upper Groove of the MAIN PLATE and the Boss (c) in the Lower Groove.
5. Insert the Boss (d) of the BOTTOM ASSY to the Upper Groove through the Hole in the MAIN PLATE ASSY shown in the Fig. 2-3-1 and the Boss (e) to the Lower Groove through the slot in the ARM (SP).



2-4. INSERT GUIDE (TU)

SET POSITION : Normal

Remove the following parts before replacing the INSERT GUIDE (TU). Refer to the corresponding items to install them.

- STAY PLATE (Item 2-2)
- BOTTOM ASSY (Item 2-3)

(Removal)

1. Remove the screw (a) fastening the INSERT GUIDE (TU) shown in the Fig. 2-4 to remove the INSERT GUIDE (TU).

(Installation)

1. Install the INSERT GUIDE (TU) shown in the Fig. 2-4.

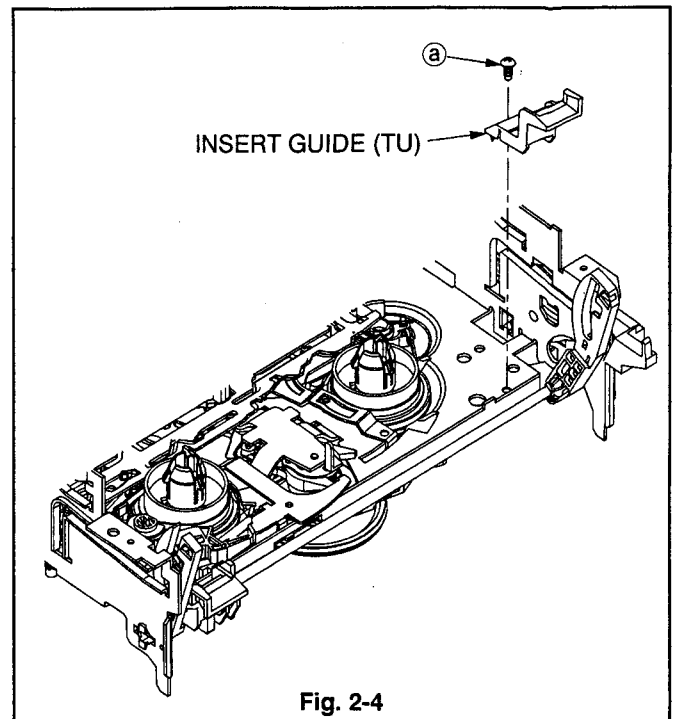


Fig. 2-4

2-5. INSERT GUIDE (SP)

SET POSITION : Normal

Remove the following parts before replacing the INSERT GUIDE (SP). Refer to the corresponding items to install them.

- STAY PLATE (Item 2-2)
- BOTTOM ASSY (Item 2-3)

(Removal)

1. Remove the screw (a) fastening the INSERT GUIDE (SP) shown in the Fig. 2-5 to remove the INSERT GUIDE (SP).

(Installation)

1. Install the INSERT GUIDE (SP) shown in the Fig. 2-5.

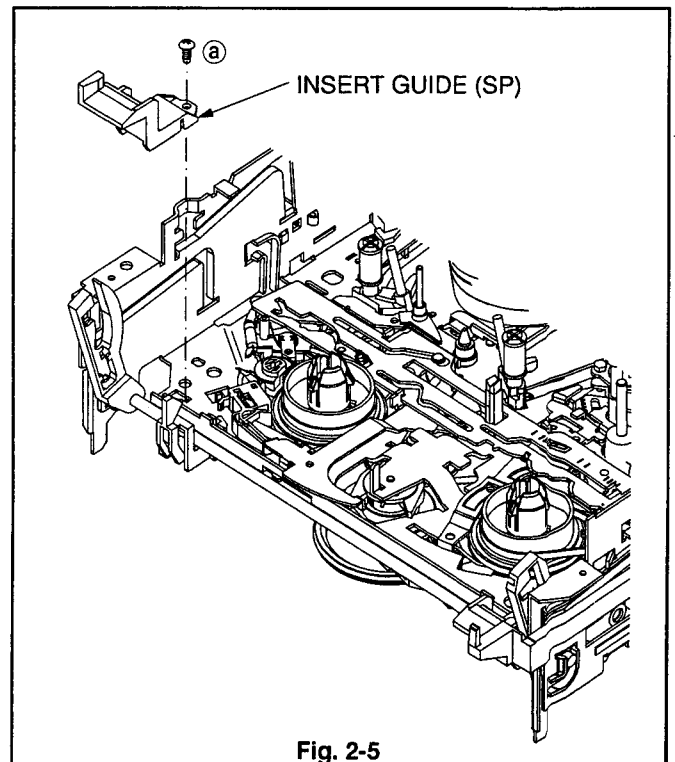


Fig. 2-5

2-6. REC HOLDER, REC LEVER, REC SPRING

SET POSITION : Upside down

(Removal)

1. Remove the screw (a) fastening the REC HOLDER shown in the Fig. 2-6 to remove the REC HOLDER.
2. Release the REC SPRING shown in the Fig. 2-6 from the catch (b) of the REC HOLDER to remove the REC LEVER.
3. Release the two catches (c) of the REC LEVER shown in the Fig. 2-6 to remove the REC SPRING.

(Installation)

1. Install the REC SPRING shown in the Fig. 2-6 to the REC LEVER and hook the REC SPRING to the catches (c).
2. Install the REC LEVER shown in the Fig. 2-6 to the REC HOLDER.
3. Hook the REC SPRING shown in the Fig. 2-6 to the catch (b).
4. Install the REC HOLDER shown in the Fig. 2-6.

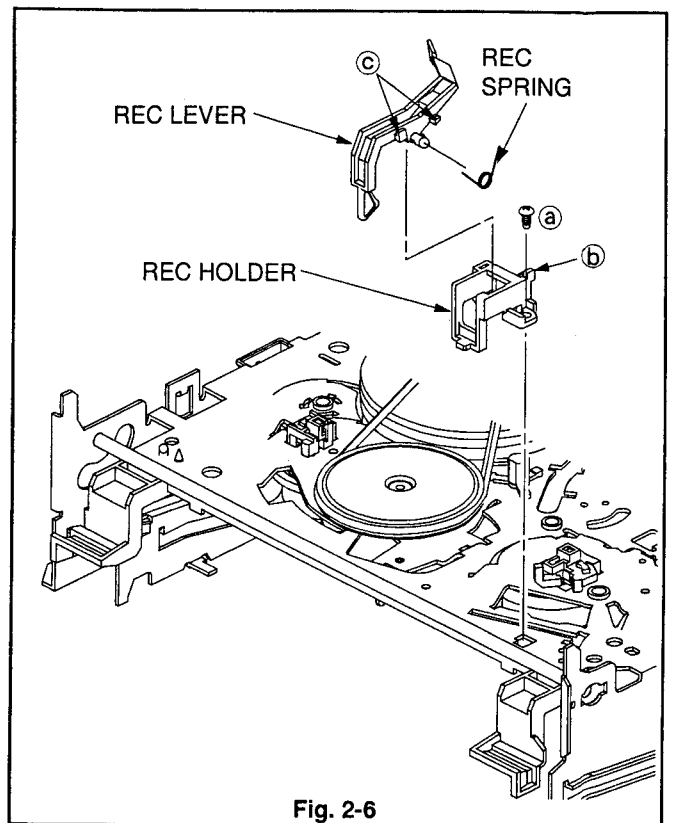


Fig. 2-6

2-7. F/L ARM ASSY, F/L BEARING

SET POSITION : Normal

Remove the following parts before replacing the F/L ARM ASSY, F/L BEARING. Refer to the corresponding items to install them.

- STAY PLATE (Item 2-2)
- BOTTOM ASSY (Item 2-3)
- INSERT GUIDE (TU) (Item 2-4)
- INSERT GUIDE (SP) (Item 2-5)
- REC HOLDER (Item 2-5)

(Removal)

1. Release the catch (a) of the F/L BEARING shown in the Fig. 2-7 and pull out the F/L ARM ASSY in the direction shown by the arrow A.

Note : Do not pull the F/L ARM by force because it may break the catch (a) of the F/L BEARING.

2. Release the catch (b) of the F/L BEARING shown in the Fig. 2-7 and rotate the F/L BEARING by 90 degrees to remove it.

(Installation)

1. Apply GREASE (MULTEMP AC-DM)[859D055O90] to the Groove of the MAIN PLATE ASSY shown in the Fig. 2-7.
2. Apply GREASE (MULTEMP AC-DM)[859D055O90] to the Boss and the Arm of the ARM (SP) shown in the Fig. 2-7.
3. Apply GREASE (MULTEMP AC-DM)[859D055O90] to the Bosses and the Arm of the ARM (TU) shown in the Fig. 2-7.
4. Install the F/L BEARING shown in the Fig. 2-7.
5. Insert the Boss (c) of the F/L ARM ASSY shown in the Fig. 2-7 into the Groove (d) of the MAIN PLATE ASSY to install the F/L ARM ASSY.

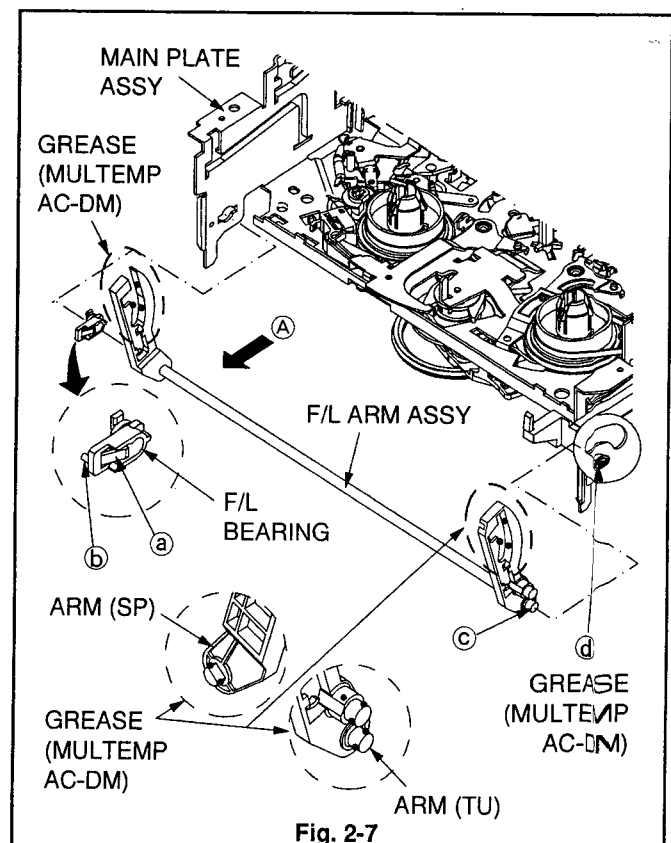


Fig. 2-7

2-8. A/C HEAD UNIT

SET POSITION : Normal

(Removal)

1. Remove the LEAD CONNECTOR of the A/C HEAD UNIT shown in the Fig. 2-8.
2. Remove the two screws (a) fastening the A/C HEAD UNIT shown in the Fig. 2-8 to remove the A/C HEAD UNIT.

(Installation)

1. Install the A/C HEAD UNIT shown in the Fig. 2-8.
- Note :** Never touch the Head of the A/C HEAD UNIT shown in the Fig. 2-8. Clean the dirt on the Head with alcohol if necessary.
2. Install the LEAD CONNECTOR of the A/C HEAD UNIT shown in the Fig. 2-8.
 3. Perform the Item 3-3. "A/C HEAD Adjustment" and Item 3-4. "Phase Adjustment" of the "Interchangeability Adjustment of the Mechanism".

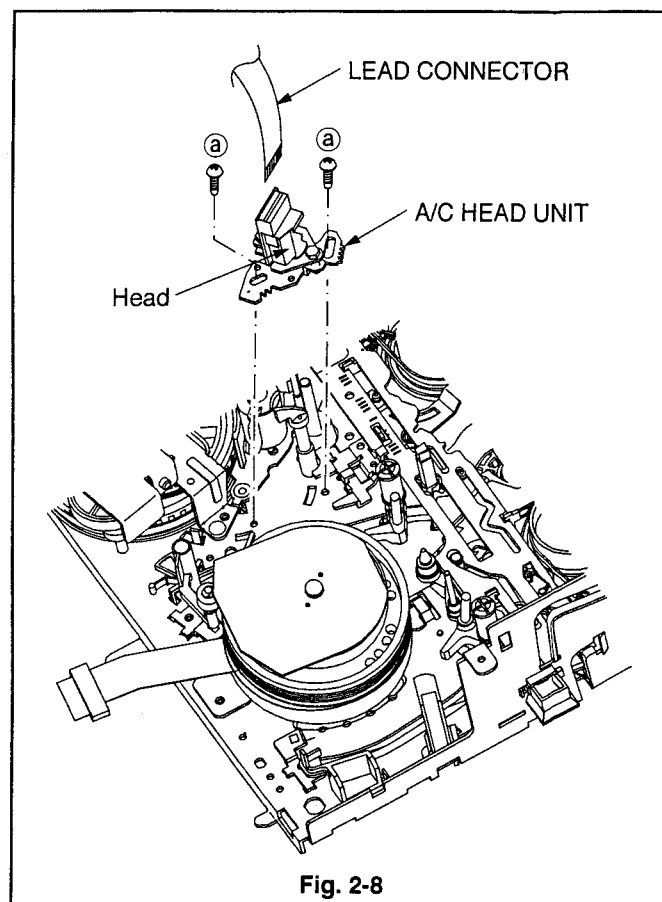


Fig. 2-8

2-9. F/E HEAD

SET POSITION : Normal

(Removal)

1. Lift the F/E HEAD shown in the Fig. 2-9-1 in the direction by the arrow (A) to remove it.

Note : Be sure to replace the removed F/E HEAD with a new one.

(Installation)

1. Install the F/E HEAD shown in the Fig. 2-9-1.

Note : Never touch the Head shown in the Fig. 2-9-2. Clean it with alcohol if necessary.

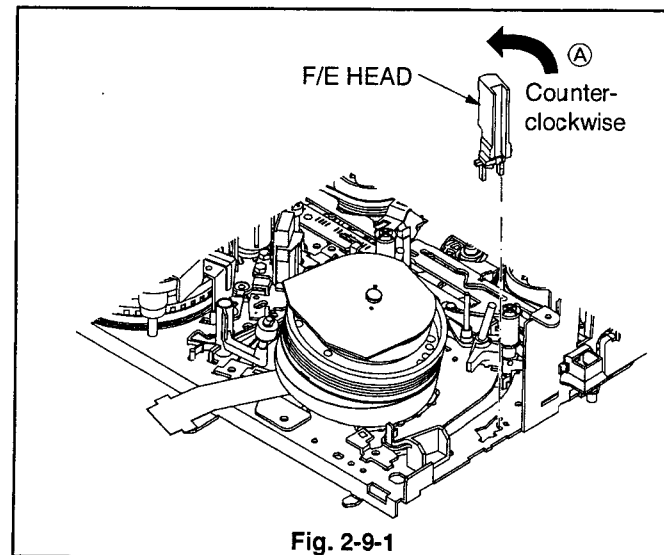


Fig. 2-9-1

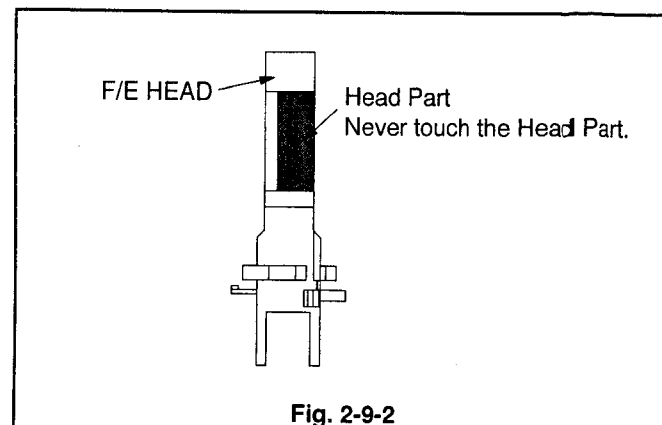


Fig. 2-9-2

2-10.SENSOR COVER (TU)

SET POSITION : Normal

(Removal)

1. Release the catch (a) of the SENSOR COVER (TU) shown in the Fig. 2-10 to remove the SENSOR COVER (TU).

(Installation)

1. Install the SENSOR COVER (TU) shown in the Fig. 2-10.

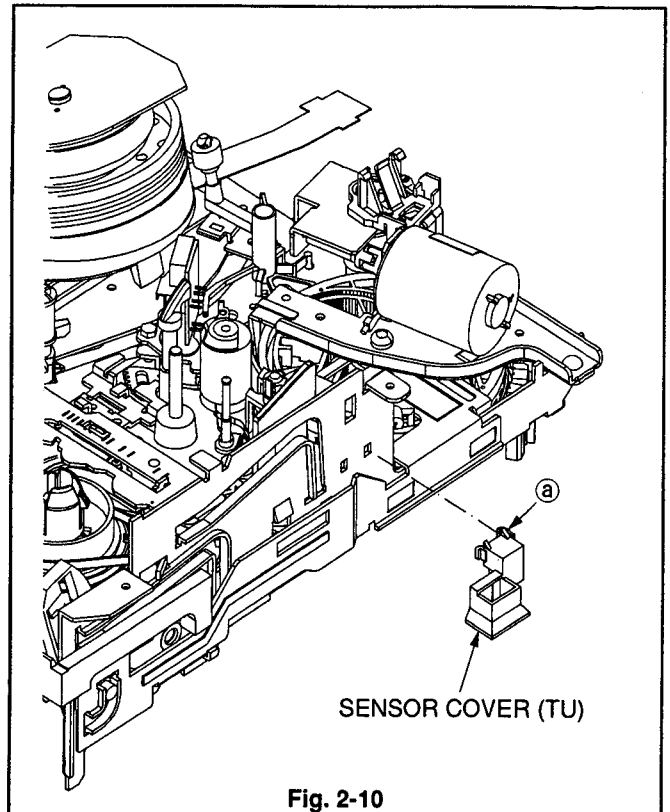


Fig. 2-10

2-11.SENSOR COVER (SP)

SET POSITION : Normal

(Removal)

1. Remove the catch (a) of the SENSOR COVER (SP) shown in the Fig. 2-11 to remove the SENSOR COVER (SP).

(Installation)

1. Install the SENSOR COVER (SP) shown in the Fig. 2-11.

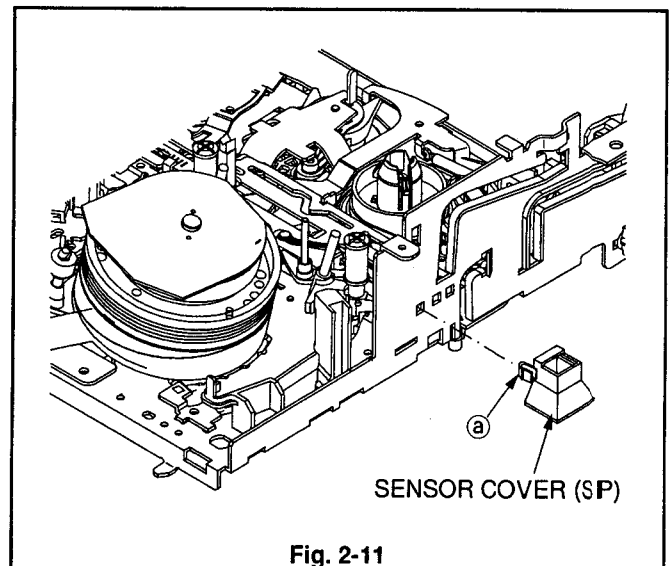


Fig. 2-11

2-12. REVERSE UNIT (TU), REVERSE UNIT (SP)

SET POSITION : Upside down

(Removal)

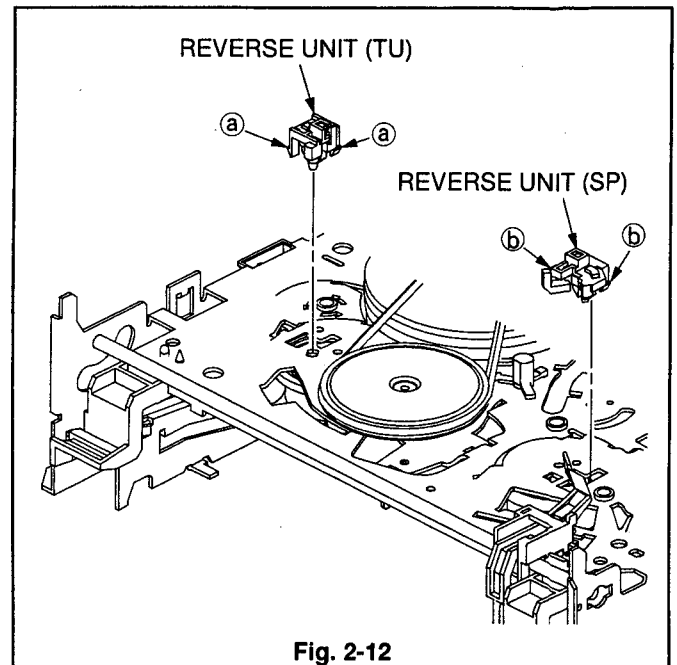
1. Release the two catches (a) of the REVERSE UNIT (TU) shown in the Fig. 2-12 to remove the REVERSE UNIT (TU).
2. Release the two catches (b) of the REVERSE UNIT (SP) shown in the Fig. 2-12 to remove the REVERSE UNIT (SP).

(Installation)

1. Clean the dirt on the transparent part of the REVERSE UNIT (TU) with a VIDEO HEAD cleaning cloth.
- Note :** Never use solvent such as alcohol to clean the REVERSE UNIT (TU).

2. Install the REVERSE UNIT (TU) shown in the Fig. 2-12.
 3. Clean the dirt on the transparent part of the REVERSE UNIT (SP) with a VIDEO HEAD cleaning cloth.
- Note :** Never use solvent such as alcohol to clean the REVERSE UNIT (SP).

4. Install the REVERSE UNIT (SP) shown in the Fig. 2-12.



2-13. MODE POSITION UNIT

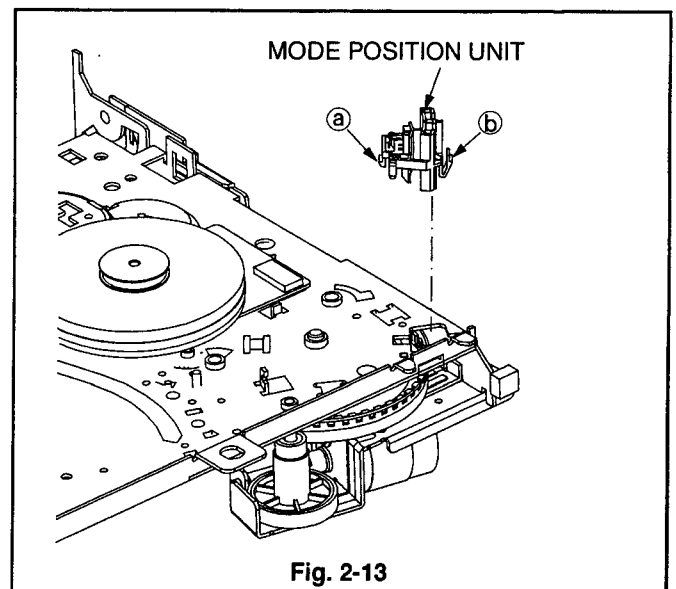
SET POSITION: Upside down

(Removal)

1. Release the two catches (a, b) of the MODE POSITION UNIT shown in the Fig. 2-13 to remove the MODE POSITION UNIT.

(Installation)

1. Install the catch (b) of the MODE POSITION UNIT shown in the Fig. 2-13.
2. Install the catch (a) of the MODE POSITION UNIT shown in the Fig. 2-13.



2-14. REEL BELT, PULLEY BUSH, THRUST WASHER, BELT PULLEY, SHIFT SLIDER, PULLEY GEAR ASSY, SLIP GEAR, SLIP SPRING, SLIP WASHER, THRUST WASHER, SLIP ADJUSTER, IDLER UNIT

SET POSITION : Upside down

(Removal)

1. Remove the REEL BELT shown in the Fig. 2-14-1.
2. Move the SHIFT SLIDER in the Fig. 2-14-1 in the direction shown of the arrow (A) to remove the SHIFT SLIDER from the SHIFT LEVER.
3. Release the two catches (a) of the PULLEY BUSH shown in the Fig. 2-14-1 to remove the PULLEY BUSH.

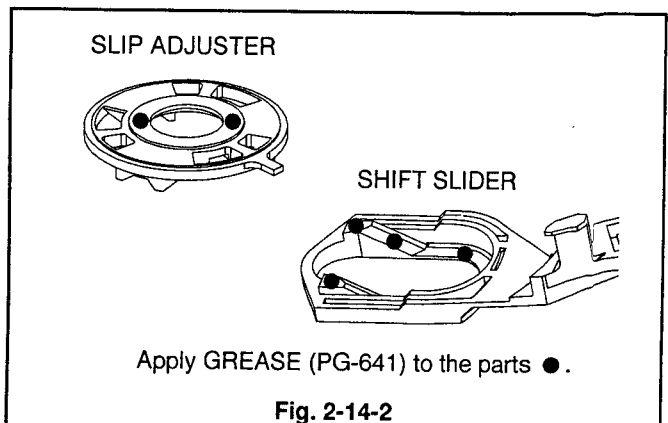
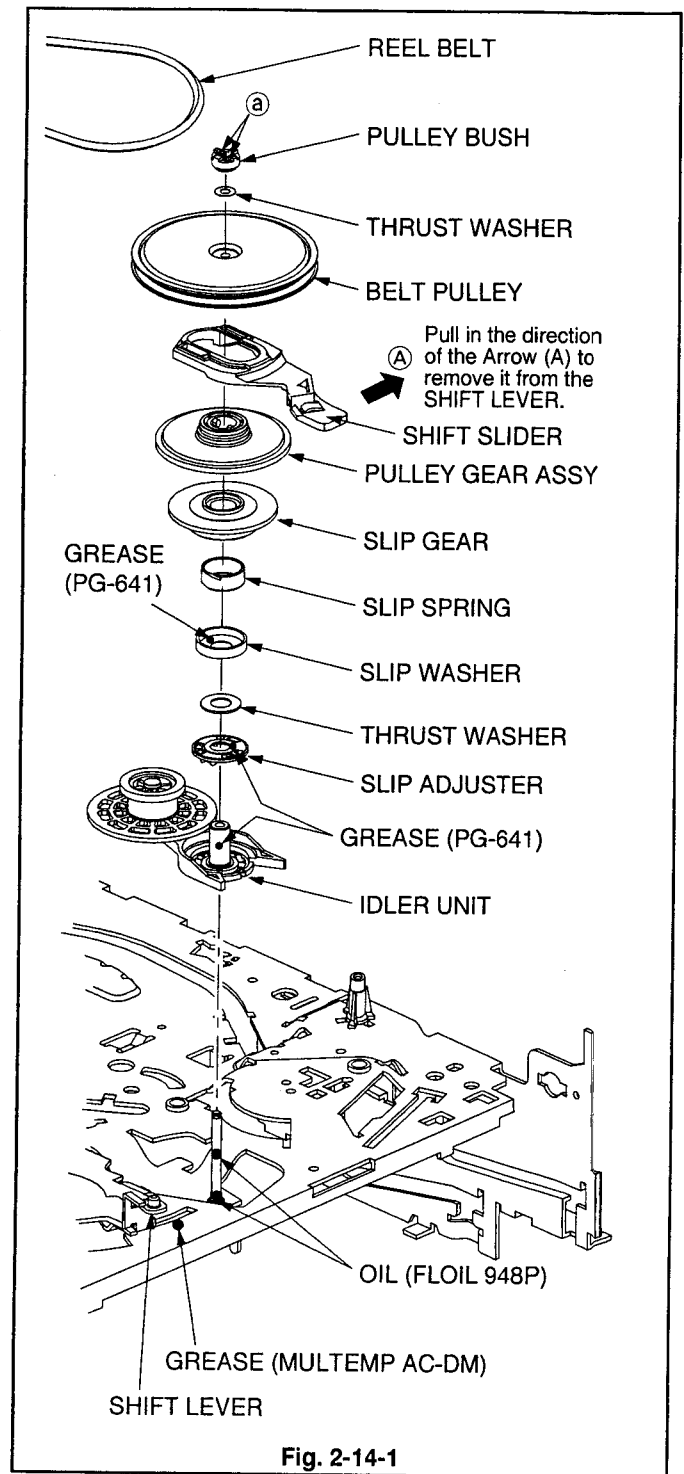
Note : Be sure to replace the removed PULLEY BUSH with a new one.

4. Remove the units from the THRUST WASHER to IDLER UNIT shown in the Fig. 2-14-1.

(Installation)

Note : Be careful so that GREASE and OIL does not adhere on the Felt Side of the PULLEY GEAR ASSY or the Grooved Side of the SLIP GEAR shown in the Fig. 2-14-4.

1. Apply OIL (FLOIL 948P) [859D154O20] to the SHAFT for the IDLER UNIT shown in the Fig. 2-14-1.
2. Apply GREASE (PG-641) [859D055O30] to the parts on the IDLER UNIT specified in the Fig. 2-14-1.
3. Apply GREASE (MULTEMP AC-DM) [859D055O90] to the parts on the MAIN PLATE ASSY specified in the Fig. 2-14-1.
4. Apply GREASE (PG-641) [859D055O30] to the parts on the new SHIFT SLIDER specified in the Fig. 2-14-2.
5. Apply GREASE (PG-641) [859D055O30] to the parts on the new SLIP ADJUSTER specified in the Fig. 2-14-2.
6. Apply GREASE (PG-641) [859D055O30] to the parts on the new BELT PULLEY specified in the Fig. 2-14-3.
7. Install the IDLER UNIT shown in the Fig. 2-14-1.
8. Install the SLIP ADJUSTER shown in the Fig. 2-14-3, matching the Lug of the SLIP ADJUSTER with the Centre Notch of the IDLER UNIT.



9. Install the units from the SLIP WASHER to REEL BELT shown in the Fig. 2-14-1.

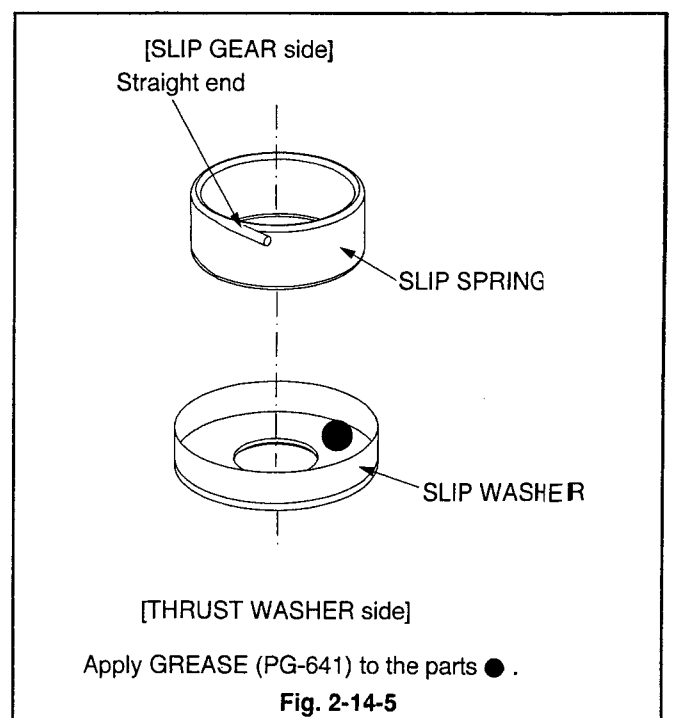
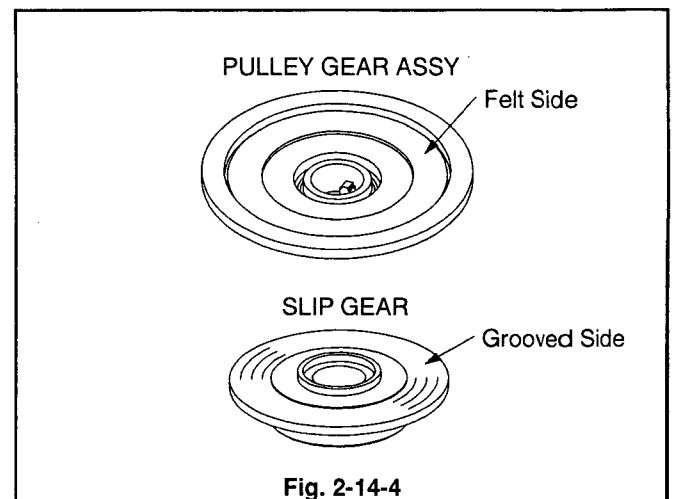
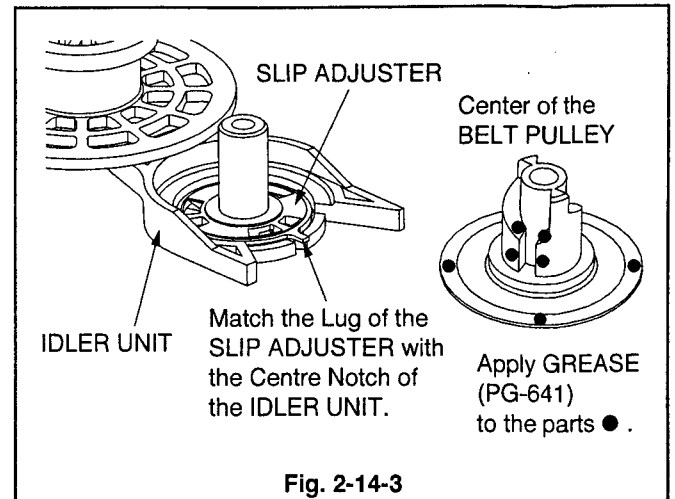
Note1 : Be sure to replace the removed PULLEY BUSH with a new one.

Note2 : Attach the SLIP SPRING with its straight end facing the SLIP GEAR side.

Note3 : Attach the SLIP WASHER with its position set as shown in the Fig. 2-14-5.

Note4 : Apply GREASE (PG-641) [859D055O30] to the part on the SLIP WASHER specified in the Fig. 2-14-5.

10. Install the SHIFT SLIDER to the SHIFT LEVER shown in the Fig. 2-14-1.



2-15.BCP UNIT

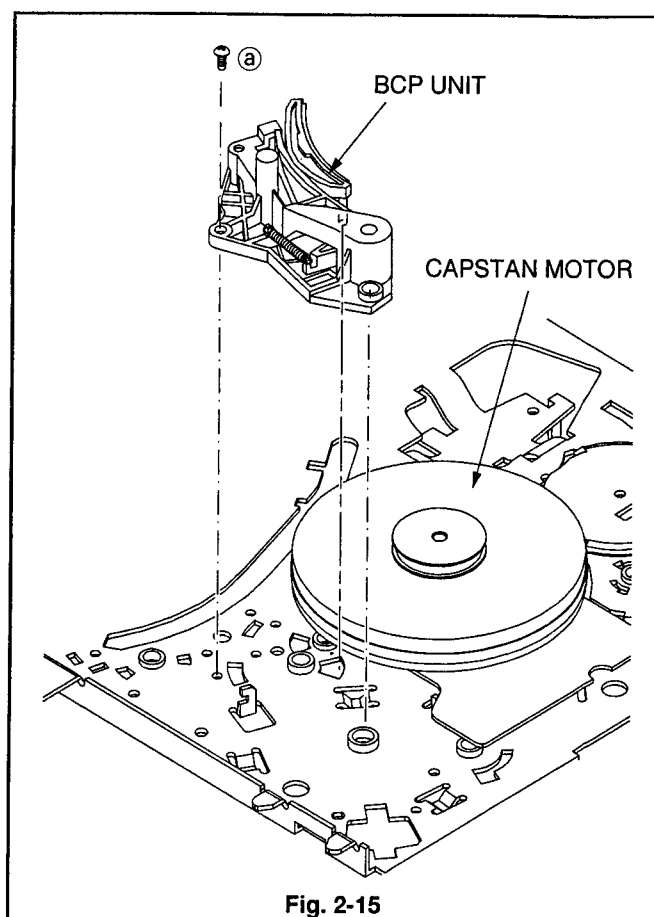
SET POSITION : Upside down

(Removal)

1. Remove the screw (a) of the BCP UNIT shown in the Fig. 2-15 to remove the BCP UNIT.

(Installation)

1. Install the BCP UNIT shown in the Fig. 2-15.



2-16.FC HOLDER, MOTOR HOLDER, LOADING WORM, LOADING MOTOR ASSY, WORM WHEEL

SET POSITION : Normal

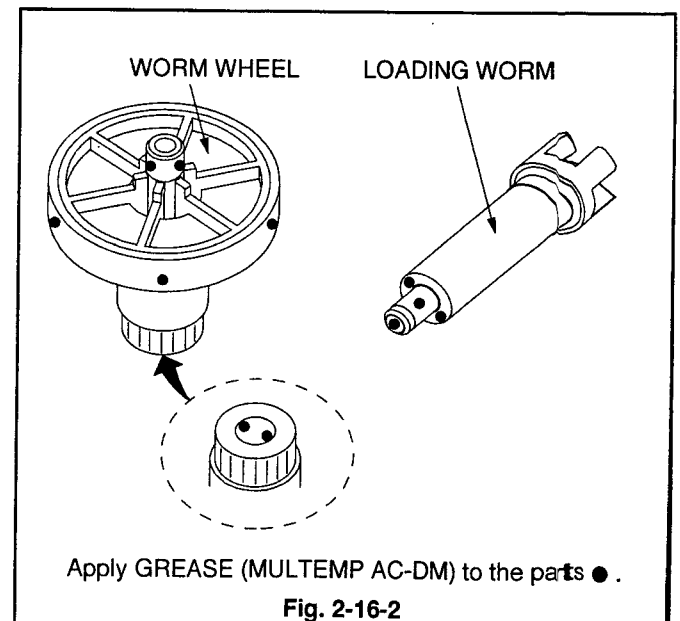
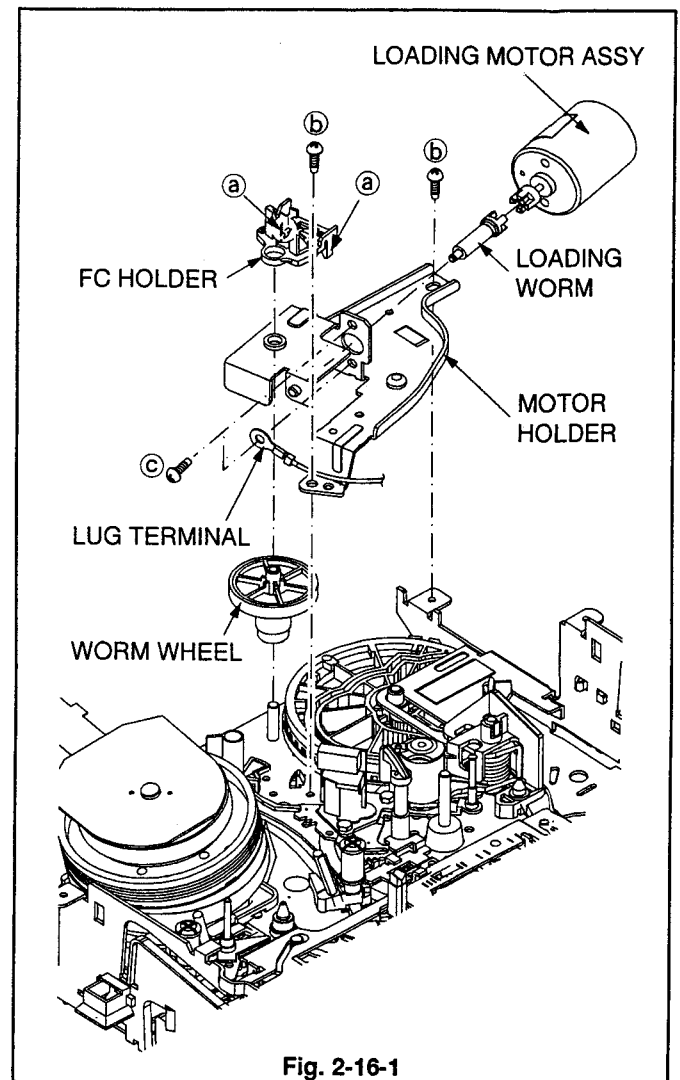
(Removal)

1. Release the two catches (a) of the FC HOLDER shown in the Fig. 2-16-1 to remove the FC HOLDER.
2. Remove the two screws (b) fastening the MOTOR HOLDER shown in the Fig. 2-16-1 to remove the MOTOR HOLDER.
3. Remove the two screws (c) fastening the LOADING MOTOR ASSY shown in the Fig. 2-16-1 to remove the LOADING MOTOR ASSY and LOADING WORM.
4. Remove the WORM WHEEL.

(Installation)

1. Apply GREASE (MULTEMP AC-DM)[859D055O90] to the LOADING WORM shown in the Fig. 2-16-2.
2. Apply GREASE (MULTEMP AC-DM)[859D055O90] to the WORM WHEEL shown in the Fig. 2-16-2.
3. Install the WORM WHEEL.
4. Install the LOADING WORM, LOADING MOTOR ASSY to the MOTOR HOLDER.

- Note :** Tighten the screw (c) shown in the Fig. 2-16-1 after putting the LUG TERMINAL on the screw.
5. Install the MOTOR HOLDER.
 6. Install the FC HOLDER.



2-17. PINCH ARM CAP, PINCH ASSY

SET POSITION : Normal

(Removal)

1. Release the two catches (a) of the PINCH ARM CAP shown in the Fig. 2-17 to remove the PINCH ARM CAP.
2. Remove the PINCH ASSY shown in the Fig. 2-17.

(Installation)

1. Insert Part (A) of the PINCH ASSY shown in the Fig. 2-17 in the most external groove of the MAIN CAM.
2. Install the PINCH ARM CAP matching the Part (B) of the PINCH ARM CAP with the Rib of the MAIN PLATE ASSY.

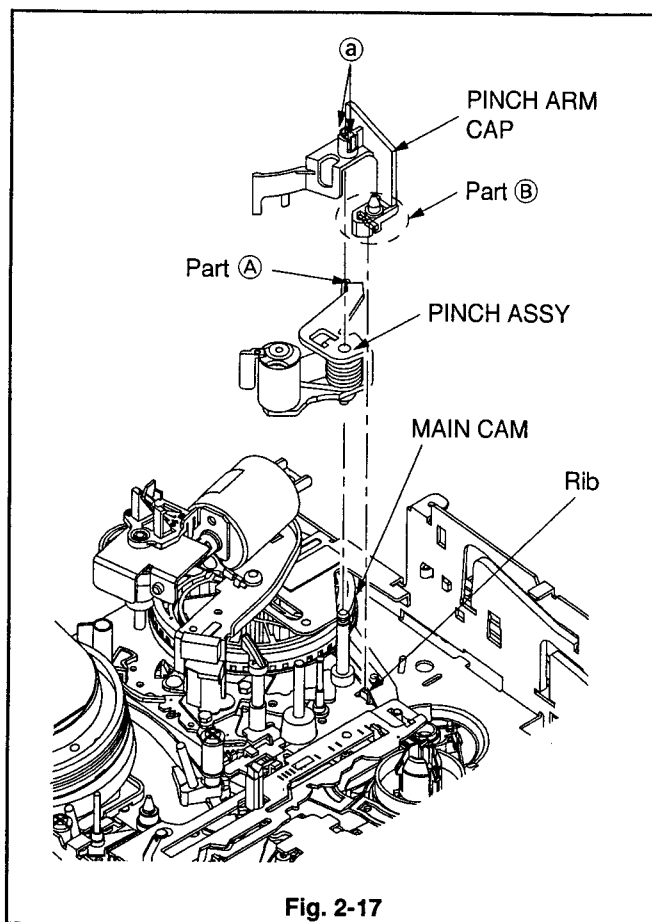


Fig. 2-17

2-18. F/L PLATE, DOOR ARM

SET POSITION : Normal

Remove the following parts before replacing the F/L PLATE, DOOR ARM. Refer to the corresponding items to install them.

- STAY PLATE (Item 2-2)
- BOTTOM ASSY (Item 2-3)
- SENSOR COVER (TU) (Item 2-10)
- MOTOR HOLDER (Item 2-16)
- PINCH ARM CAP (Item 2-17)
- PINCH ASSY (Item 2-17)

(Removal)

1. Slightly lift the back of the F/L PLATE (MAIN CAM side) shown in the Fig. 2-18-1 to remove the F/L PLATE.
2. Remove the DOOR ARM.

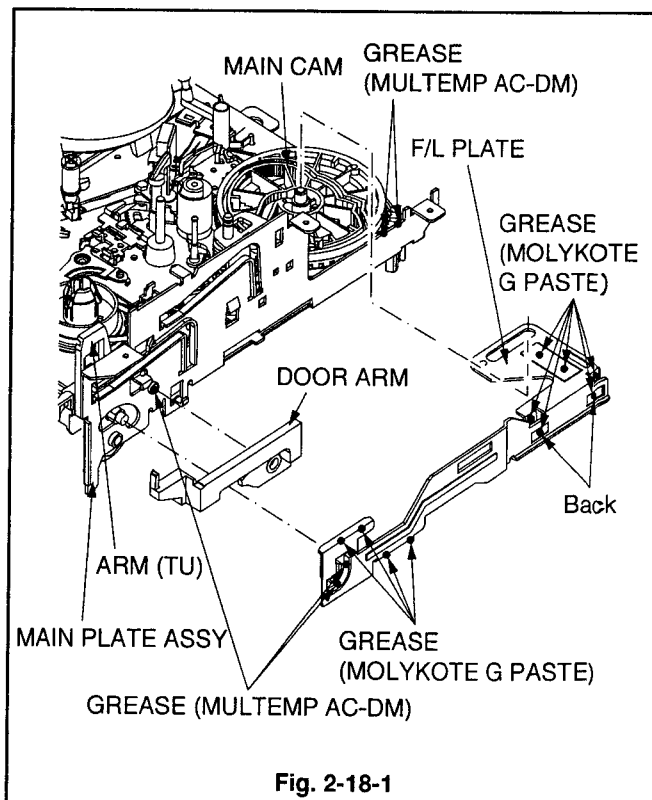
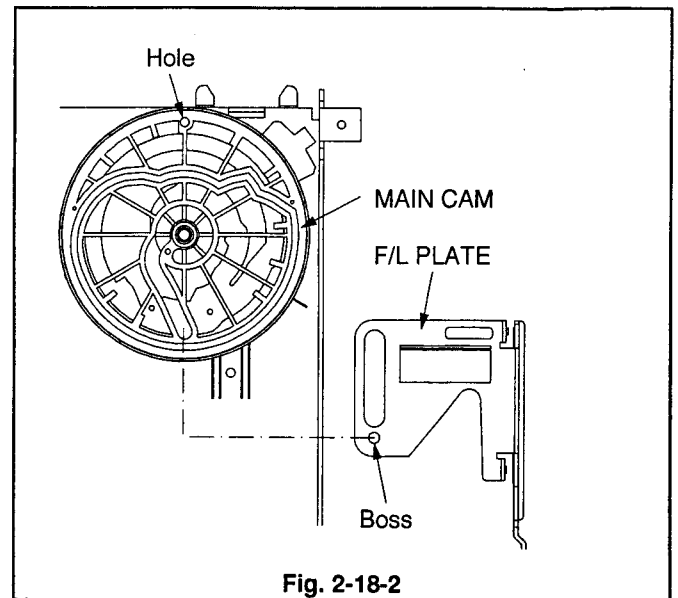


Fig. 2-18-1

(Installation)

1. Apply GREASE (MULTEMP AC-DM)[859D055O90] to the points on the new F/L PLATE specified in the Fig. 2-18-1.
2. Apply GREASE (MOLYKOTE G PASTE) [859D055O50] to the points on the new F/L PLATE specified in the Fig. 2-18-1.
3. Apply GREASE (MULTEMP AC-DM)[859D055O90] to the points on the MAIN PLATE ASSY specified in the Fig. 2-18-1.
4. Install the DOOR ARM.
5. Match the Hole in the MAIN CAM with the Hole in the MAIN PLATE ASSY shown in the Fig. 2-18-2.
6. Install the F/L PLATE shown in the Fig. 2-18-1 from the front side (ARM (TU) side).
7. Insert the Boss of the F/L PLATE shown in the Fig. 2-18-2 into the Groove of the MAIN CAM.



2-19. BRAKE CAM PLATE

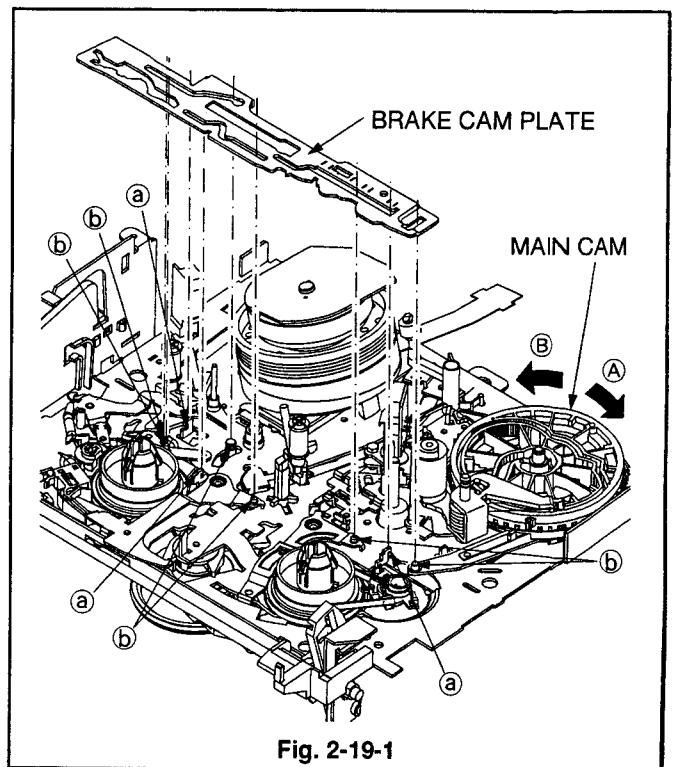
SET POSITION : Normal

Remove the following parts before replacing the BRAKE CAM PLATE. Refer to the corresponding items to install them.

- STAY PLATE (Item 2-2)
- BOTTOM ASSY (Item 2-3)
- MOTOR HOLDER (Item 2-16)
- PINCH ARM CAP (Item 2-17)
- PINCH ASSY (Item 2-17)

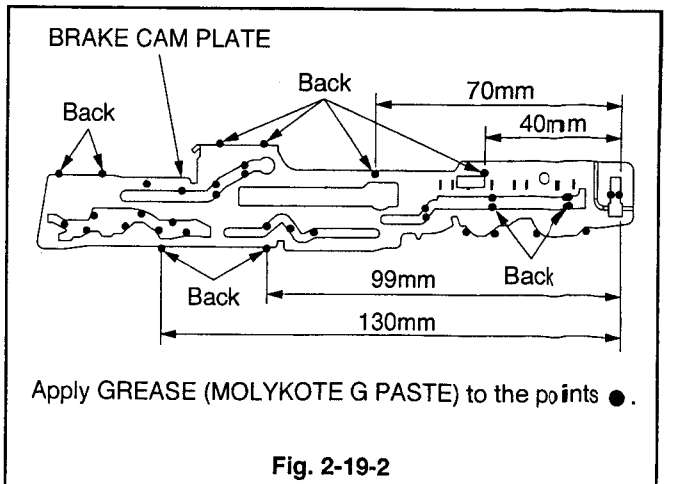
(Removal)

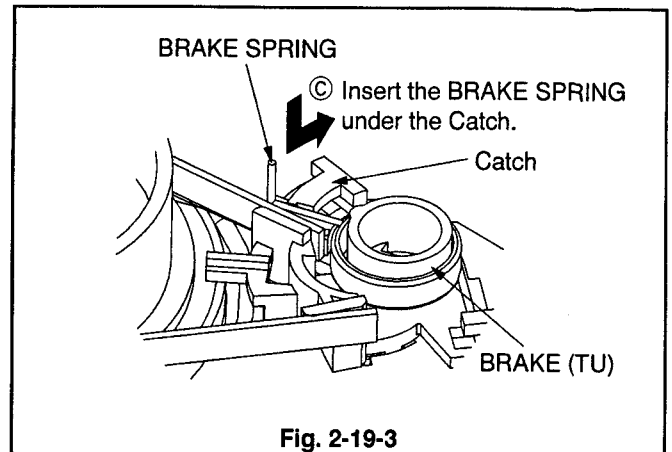
1. Rotate the MAIN CAM in the Fig. 2-19-1 in the direction shown by the arrow ①. And move the BRAKE CAM PLATE so that the three catches (a) of the MAIN PLATE ASSY can be released.
2. Remove the BRAKE CAM PLATE.



(Installation)

1. Apply GREASE (MOLYKOTE G PASTE) [859D055O50] to the points on the BRAKE CAM PLATE specified in the Fig. 2-19-2.
2. Hook the BRAKE SPRING shown in the Fig. 2-19-3 to the catch of the BRAKE (TU).
3. Install the BRAKE CAM PLATE, inserting the six Guide Pins (b) shown in the Fig. 2-19-1 into the slits of the BRAKE CAM PLATE.
4. Move the BRAKE SPRING in the Fig. 2-19-3 in the direction of the arrow ③ to release the Catch of the BRAKE (TU) and insert the BRAKE SPRING under the Catch.
5. Rotate the MAIN CAM shown in the Fig. 2-19-1 in the direction shown of the arrow ②. And move the BRAKE CAM PLATE to hook it to the three catches (a) of the MAIN PLATE ASSY.





2-20.GUIDE LAMP

SET POSITION : Normal

Remove the following parts before replacing the GUIDE LAMP. Refer to the corresponding items to install them.

- STAY PLATE (Item 2-2)
- BOTTOM ASSY (Item 2-3)
- MOTOR HOLDER (Item 2-16)
- PINCH ARM CAP (Item 2-17)
- PINCH ASSY (Item 2-17)
- BRAKE CAM PLATE (Item 2-19)

(Removal)

1. Release the catch (a) of the GUIDE LAMP shown in the Fig. 2-20.
2. Rotate the GUIDE LAMP in the direction shown by the arrow A (counterclockwise, when viewed from the bottom) to match the longest slit (c) of the MAIN PLATE ASSY with the longest arm (b) of the GUIDE LAMP shown in the Fig. 2-20. Pull it out downward to remove it.

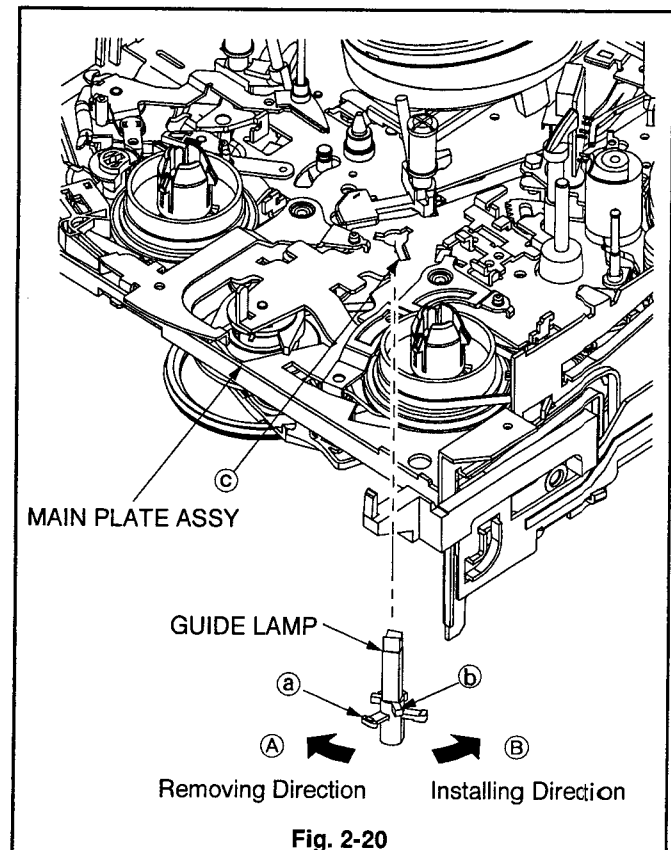
(Installation)

1. Clean the dirt on the GUIDE LAMP with a VIDEO HEAD cleaning cloth.

Note: Never use solvent such as alcohol to clean the GUIDE LAMP.

2. Insert the GUIDE LAMP in the Fig. 2-20, matching the longest arm (b) of the GUIDE LAMP with the longest slit (c) of the MAIN PLATE ASSY.
3. Rotate the GUIDE LAMP in the direction shown by the arrow B (clockwise, when viewed from the bottom) to match the arm (a) of the GUIDE LAMP shown in the Fig. 2-20 with the longest slit (c) of the MAIN PLATE ASSY.

Note: Clean the dirt on the GUIDE LAMP with a VIDEO HEAD cleaning cloth if necessary.



2-21.MAIN CAM, GUIDE ARM (TU), BRAKE LEVER, LB PIN

SET POSITION : Normal

Remove the following parts before replacing the MAIN CAM, GUIDE ARM (TU), BRAKE LEVER. Refer to the corresponding items to install them.

- STAY PLATE (Item 2-2)
- BOTTOM ASSY (Item 2-3)
- SENSOR COVER (TU) (Item 2-10)
- MOTOR HOLDER (Item 2-16)
- WORM WHEEL (Item 2-16)
- PINCH ARM CAP (Item 2-17)
- PINCH ASSY (Item 2-17)
- F/L PLATE (Item 2-18)

(Removal)

1. Remove the MAIN CAM shown in the Fig. 2-21-1.
2. Remove the GUIDE ARM (TU) shown in the Fig. 2-21-1.
3. Move the BRAKE LEVER in the Fig. 2-21-1 in the direction shown by the arrow (A) and release the catch (a) to remove the BRAKE LEVER.
4. Remove the LB PIN shown in the Fig. 2-21-1.

(Installation)

1. Apply GREASE (MULTEMP AC-DM)[859D055O90] to the points on the new GUIDE ARM (TU) specified in the Fig. 2-21-1.
2. Apply GREASE (MULTEMP AC-DM)[859D055O90] to the points on the MAIN PLATE ASSY specified in the Fig. 2-21-1.
3. Install the GUIDE ARM (TU), matching the Hole in the GUIDE ARM (TU) shown in the Fig. 2-21-2 with the Hole in the MAIN PLATE ASSY.

Note : Install the GUIDE ARM (TU) so that the Part specified with the Oblique Lines of the GUIDE ARM (TU) will be under the SHAFT FLANGE of the PINCH ASSY.

4. Install the BRAKE LEVER shown in the Fig. 2-21-2 so that the Hole in the BRAKE LEVER overlaps the Hole in the MAIN PLATE ASSY.
5. Apply GREASE (MULTEMP AC-DM)[859D055O90] to the points on the new MAIN CAM specified in the Fig. 2-21-3.
6. Install the MAIN CAM so that the Hole in the MAIN CAM shown in the Fig. 2-21-2 overlaps with the Hole in the MAIN PLATE ASSY.

Note : Install the MAIN CAM inserting the Pins of the BCP UNIT, GUIDE ARM (TU), BRAKE LEVER into the Grooves on the back of the MAIN CAM for sure.

Set the Main Cam while pulling the Guide Pin (on the BCP UNIT) in the direction indicated by the arrow (B) (toward the deck front) using tweezers as shown in Fig. 2-21-1.

Be careful that GREASE does not adhere on the Wall when applying GREASE to the most external circle on the back of the MAIN CAM (4 parts) shown in the Fig. 2-21-3.

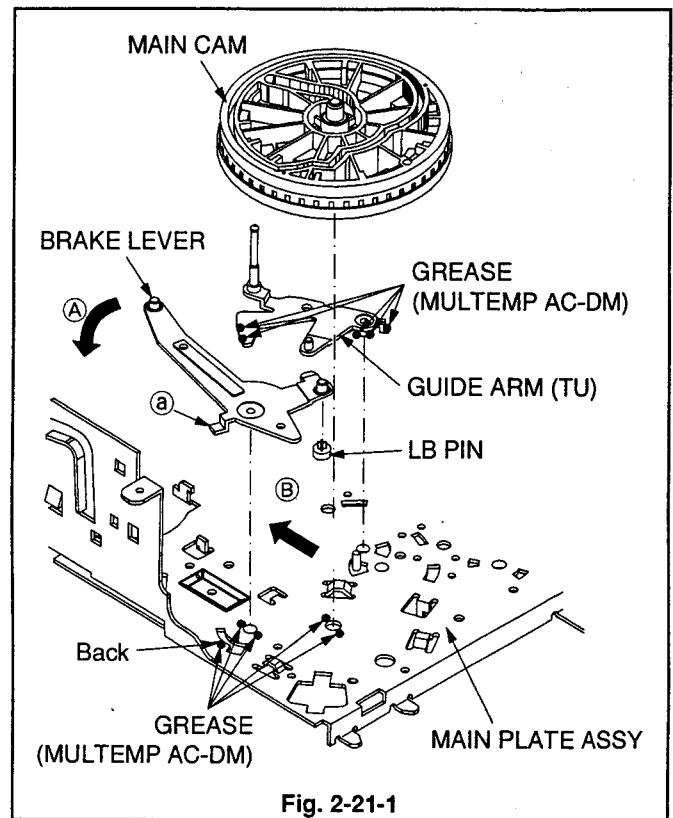


Fig. 2-21-1

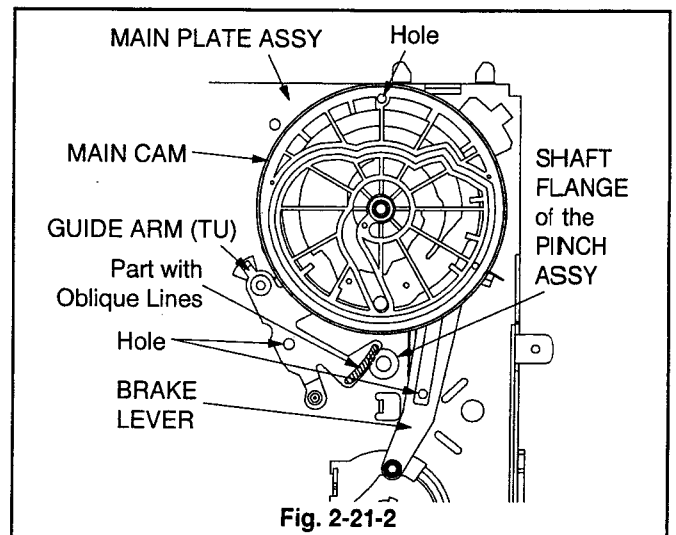


Fig. 2-21-2

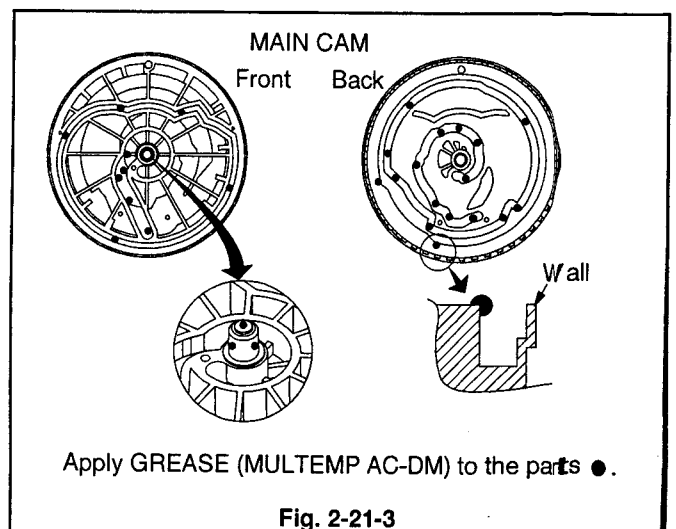


Fig. 2-21-3

2-22. L/D LOCK LEVER

SET POSITION : Normal

Remove the following parts before replacing the L/D LOCK LEVER. Refer to the corresponding items to install them.

- STAY PLATE (Item 2-2)
- BOTTOM ASSY (Item 2-3)
- MOTOR HOLDER (Item 2-16)
- PINCH ARM CAP (Item 2-17)
- PINCH ASSY (Item 2-17)
- BRAKE CAM PLATE (Item 2-19)

(Removal)

1. Remove the L/D LOCK LEVER shown in the Fig. 2-22.

(Installation)

1. Install the L/D LOCK LEVER shown in Fig. 2-22.

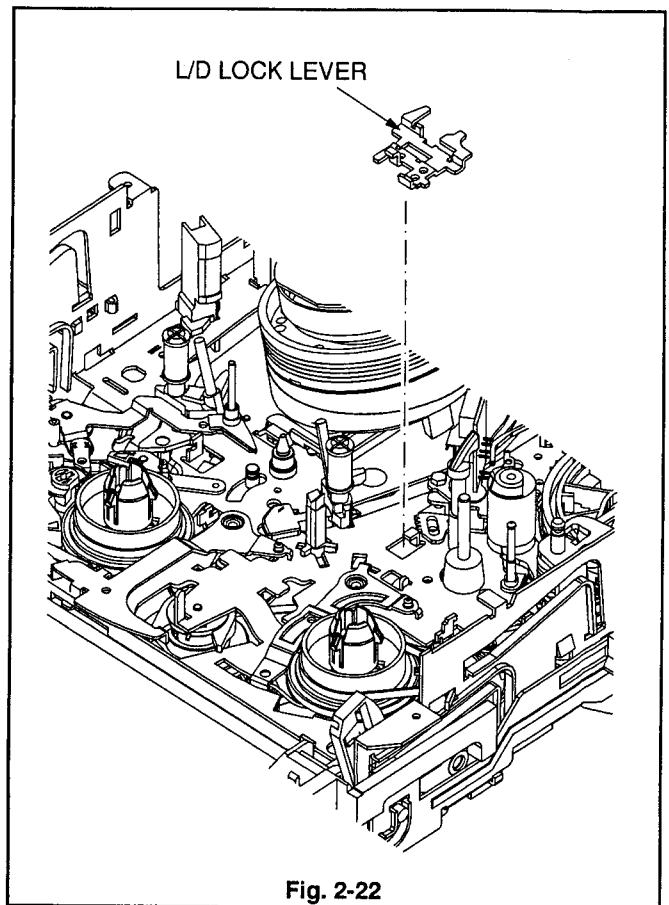


Fig. 2-22

2-23. BRAKE BELT (SP), BELT HOLDER

SET POSITION : Normal

Remove the following parts before replacing the BRAKE BELT (SP), BELT HOLDER. Refer to the corresponding items to install them.

- STAY PLATE (Item 2-2)
- BOTTOM ASSY (Item 2-3)

(Removal)

1. Lift the BRAKE BELT (SP) shown in the Fig. 2-23 to remove it from the REEL DISK (SP side).
2. Release the BRAKE BELT (SP) from the catch (a) of the BELT LEVER shown in the Fig. 2-23.
3. Release the two catches (b) of the BELT HOLDER shown in the Fig. 2-23 and separate the BELT HOLDER from the BRAKE BELT (SP).
4. Release the catch (c) of the BELT HOLDER shown in the Fig. 2-23 to remove the BRAKE BELT (SP).

(Installation)

Note : Install the BRAKE BELT (SP) so that its Felt Side touches the REEL DISK (SP side). GREASE applied to the BRAKE CAM PLATE and MAIN PLATE ASSY should not adhere on the Felt Side of the BRAKE BELT (SP).

1. Install the BRAKE BELT (SP) shown in the Fig. 2-23 to the catch (c) of the BELT HOLDER.
2. Install the BELT HOLDER shown in the Fig. 2-23.
3. Install the BRAKE BELT (SP) shown in the Fig. 2-23 to the catch (a) of the BELT LEVER.
4. Hook the BRAKE BELT (SP) shown in the Fig. 2-23 to the REEL DISK (SP side).

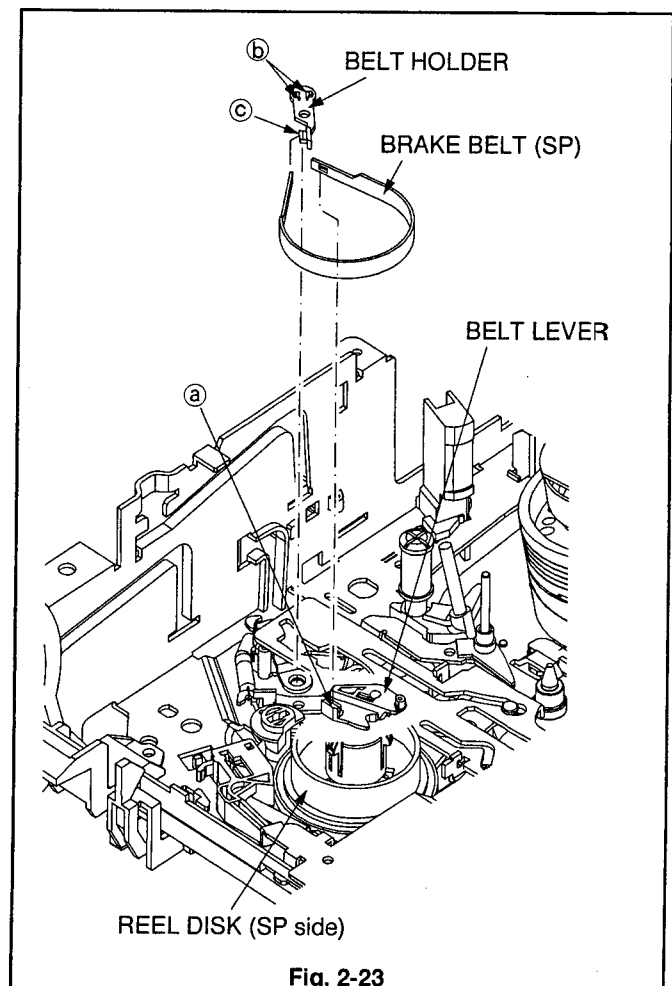


Fig. 2-23

2-24. BELT LEVER, BELT ADJUSTER

SET POSITION : Normal

Remove the following parts before replacing the BELT LEVER, BELT ADJUSTER. Refer to the corresponding items to install them.

- STAY PLATE (Item 2-2)
- BOTTOM ASSY (Item 2-3)
- MOTOR HOLDER (Item 2-16)
- PINCH ARM CAP (Item 2-17)
- PINCH ASSY (Item 2-17)
- BRAKE CAM PLATE (Item 2-19)
- BRAKE BELT (SP) (Item 2-23)
- BELT HOLDER (Item 2-23)

(Removal)

1. Release the catch (a) of the BELT LEVER shown in the Fig. 2-24 to remove the BELT LEVER.
2. Remove the BELT ADJUSTER shown in the Fig. 2-24.

(Installation)

1. Install the BELT ADJUSTER shown in the Fig. 2-24.
2. Install the BELT LEVER shown in the Fig. 2-24.

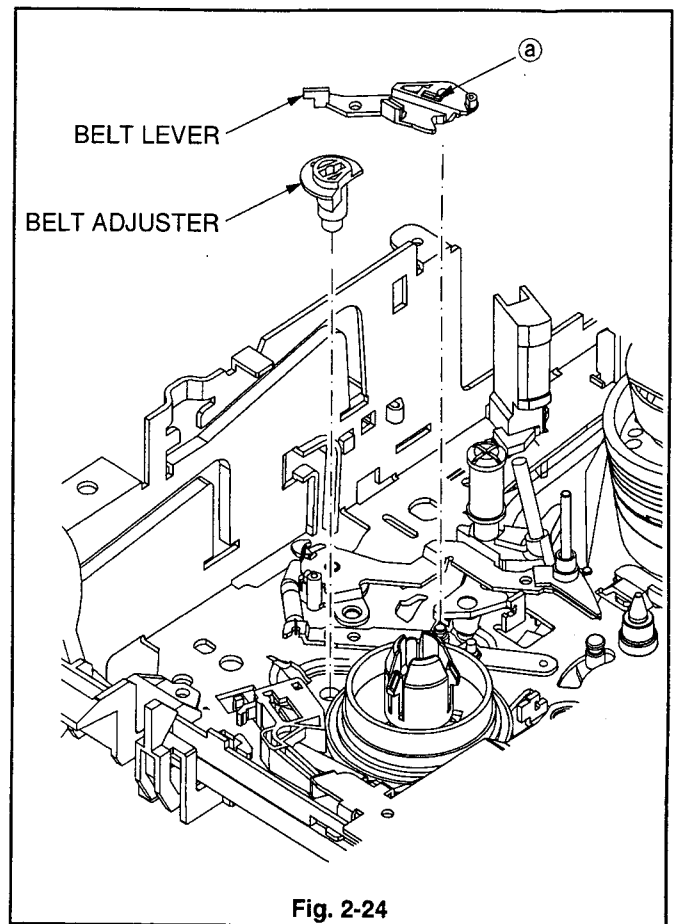


Fig. 2-24

2-25 TENSION ARM, TENSION LEVER, TENSION SPRING, TENS AXIS HOLDER, REEL DISK (SP side)

SET POSITION : Normal

Remove the following parts before performing this item. Refer to the corresponding items to install them.

- STAY PLATE (Item 2-2)
- BOTTOM ASSY (Item 2-3)
- MOTOR HOLDER (Item 2-16)
- PINCH ARM CAP (Item 2-17)
- PINCH ASSY (Item 2-17)
- BRAKE CAM PLATE (Item 2-19)
- BRAKE BELT (SP) (Item 2-23)
- BELT HOLDER (Item 2-23)
- BELT LEVER (Item 2-24)

(Removal)

1. Remove the TENSION SPRING shown in the Fig. 2-25.
2. Release the catch (a) of the TENS AXIS HOLDER shown in the Fig. 2-25 to remove the TENSION ARM.
3. Remove the TENSION LEVER shown in the Fig. 2-25.
4. Release the catch (b) of the TENS AXIS HOLDER shown in the Fig. 2-25. Move the TENS AXIS HOLDER in the direction shown by the arrow (A) to remove it.
5. Remove the REEL DISK (SP side).

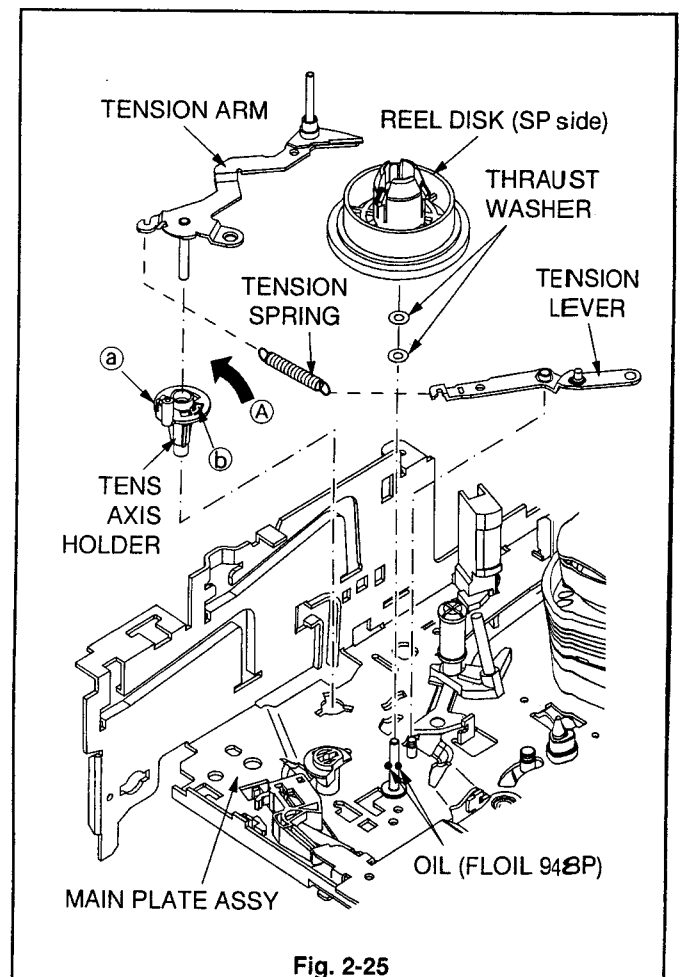


Fig. 2-25

(Installation)

1. Apply OIL (FLOIL 948P) [859D154O20] to the parts on the MAIN PLATE ASSY specified in the Fig. 2-25.
2. Install the REEL DISK (SP side).
3. Install the TENS AXIS HOLDER.

Note : Install the TENS AXIS HOLDER so that the catch (a) for the TENSION ARM will be positioned on the front (F/L ARM ASSY side).

4. Install the TENSION LEVER.
5. Install the TENSION ARM.
6. Install the TENSION SPRING.

Note : Install the longer hook of the TENSION SPRING to the TENSION ARM.

2-26. BRAKE BELT (TU)

SET POSITION : Normal

Remove the following parts before replacing the BRAKE BELT. Refer to the corresponding items to install them.

- STAY PLATE (Item 2-2)
- BOTTOM ASSY (Item 2-3)

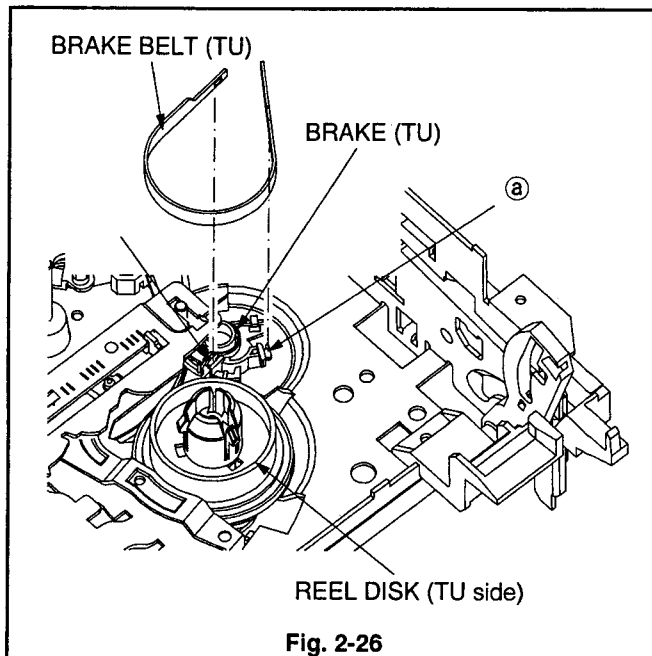
(Removal)

1. Lift the BRAKE BELT (TU) shown in the Fig. 2-26 to remove it from the REEL DISK (TU side).
2. Release the two catches (a) of the BRAKE (TU) shown in the Fig. 2-26 to remove the BRAKE BELT (TU).

(Installation)

1. Install the BRAKE BELT (TU) shown in the Fig. 2-26 to the BRAKE (TU).
2. Hook the BRAKE BELT (TU) shown in the Fig. 2-26 to the REEL DISK (TU side).

Note : Install the BRAKE BELT (TU) so that its Felt Side touches the REEL DISK (TU side).



2-27. BRAKE (TU), REEL DISK (TU side)

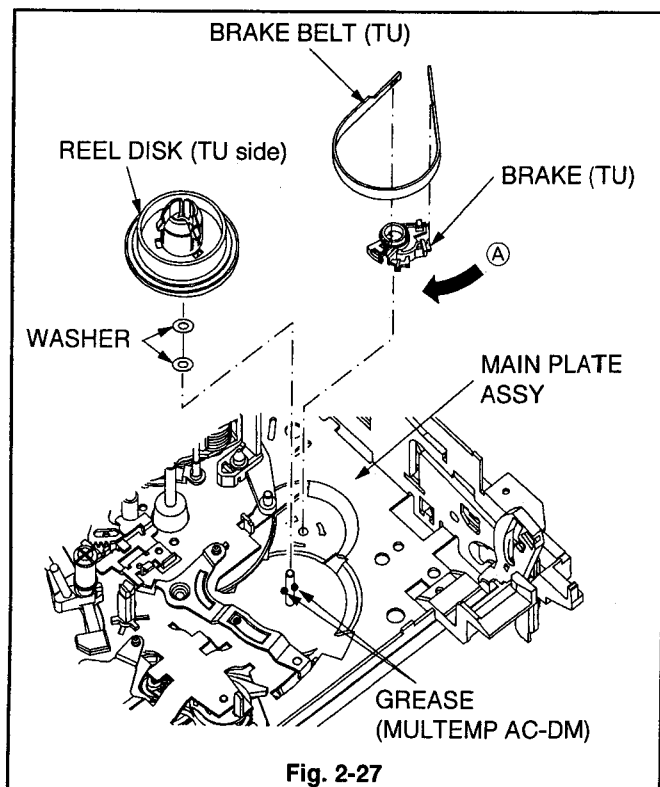
SET POSITION : Normal

Remove the following parts before replacing the BRAKE (TU), REEL DISK (TU side). Refer to the corresponding items to install them.

- STAY PLATE (Item 2-2)
- BOTTOM ASSY (Item 2-3)
- MOTOR HOLDER (Item 2-16)
- PINCH ARM CAP (Item 2-17)
- PINCH ASSY (Item 2-17)
- BRAKE CAM PLATE (Item 2-19)

(Removal)

1. Move the BRAKE (TU) in the Fig. 2-27 in the direction shown by the arrow (A) to remove it.
2. Remove the BRAKE BELT (TU) from the BRAKE (TU).
3. Remove the REEL DISK (TU).



(Installation)

Note : Install the BRAKE BELT (TU) so that its Felt Side touches the REEL DISK (TU side).

The GREASE applied to the BRAKE CAM PLATE and the MAIN PLATE ASSY should not adhere on the Felt Side of the BRAKE BELT (SP).

1. Apply GREASE (MULTEMP AC-DM)[859D055O90] to the parts on the MAIN PLATE ASSY specified in the Fig. 2-27.
2. Install the REEL DISK (TU side).
3. Install the BRAKE BELT (TU) to the BRAKE (TU).
4. Install the BRAKE (TU).
5. Hook the BRAKE BELT (TU) to the REEL DISK (TU side).

2-28.SHIFT LEVER

SET POSITION : Normal

Remove the following parts before replacing the SHIFT LEVER. Refer to the corresponding items to install them.

- STAY PLATE (Item 2-2)
- BOTTOM ASSY (Item 2-3)
- MOTOR HOLDER (Item 2-16)
- PINCH ARM CAP (Item 2-17)
- PINCH ASSY (Item 2-17)
- BRAKE CAM PLATE (Item 2-19)
- BRAKE (TU) (Item 2-27)
- REEL DISK (TU side) (Item 2-27)

(Removal)

1. Move the SHIFT SLIDER in the Fig. 2-28 in the direction shown by the arrow (A) to release it from the SHIFT LEVER.
2. Move the SHIFT LEVER in the Fig. 2-28 in the direction shown by the arrow (B) to remove it.

(Installation)

1. Apply GREASE (MULTEMP AC-DM)[859D055O90] to the parts on the new SHIFT LEVER specified in the Fig. 2-28.
2. Apply GREASE (MULTEMP AC-DM)[859D055O90] to the parts on the MAIN PLATE ASSY specified in the Fig. 2-28.
3. Install the SHIFT LEVER so that its Part (a) shown in the Fig. 2-28 will be positioned under the MAIN PLATE ASSY.
4. Install the SHIFT SLIDER to the SHIFT LEVER.

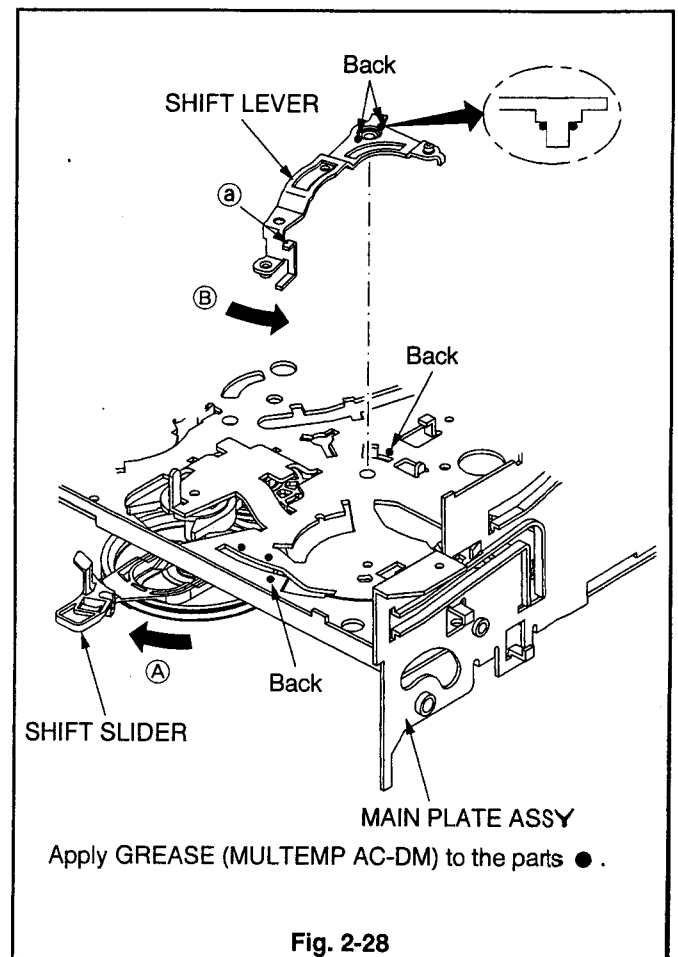


Fig. 2-28

2-29. CHARGE SPRING, SWING LEVER, CHARGE ASSY

SET POSITION : Normal

Remove the following parts before replacing the CHARGE SPRING, SWING LEVER, CHARGE ASSY. Refer to the corresponding items to install them.

- STAY PLATE (Item 2-2)
- BOTTOM ASSY (Item 2-3)
- MOTOR HOLDER (Item 2-16)
- PINCH ARM CAP (Item 2-17)
- PINCH ASSY (Item 2-17)
- BRAKE CAM PLATE (Item 2-19)

(Removal)

1. Remove the CHARGE SPRING shown in the Fig. 2-29 from the SWING LEVER.
2. Remove the SWING LEVER shown in the Fig. 2-29.
3. Release the Part ① of the CHARGE ASSY shown in the Fig. 2-29 from the Part ② of the MAIN PLATE ASSY to remove the CHARGE ASSY.

(Installation)

1. Apply GREASE (MULTEMP AC-DM)[859D055O90] to the parts on the MAIN PLATE ASSY specified in the Fig. 2-29.
2. Install the CHARGE ASSY.
3. Install the SWING LEVER inserting the Part ③ of the SWING LEVER in the Fig. 2-29 into the groove in the MAIN PLATE ASSY.
4. Install the CHARGE SPRING to the SWING LEVER.

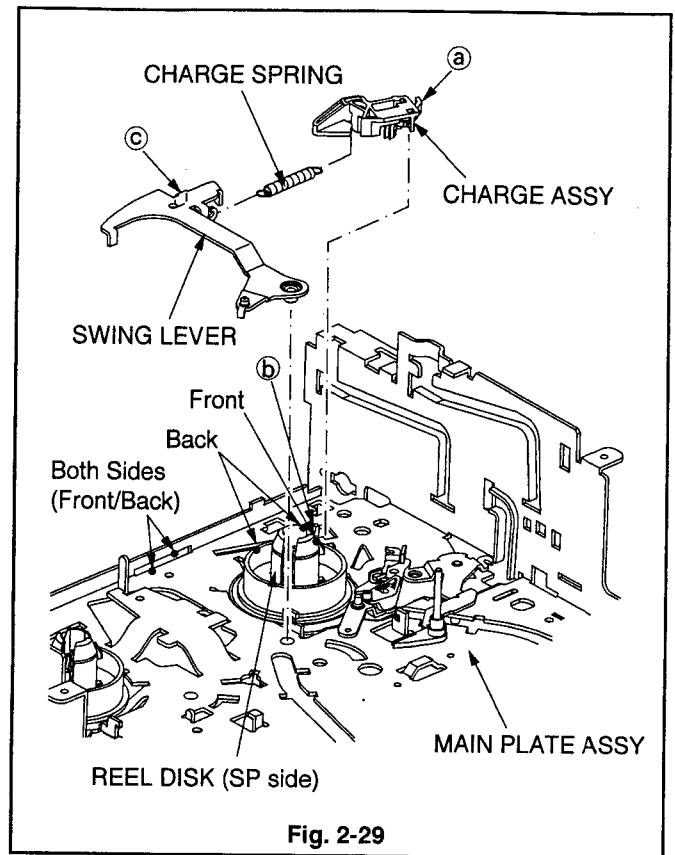


Fig. 2-29

2-30. SPACER PLATE, LOADING ARM ASSY (SP), LOADING ARM ASSY (TU)

SET POSITION : Upside down

(Removal)

1. Release the catch (①) of the LOADING ARM ASSY (SP) shown in the Fig. 2-30-1 to remove the LOADING ARM ASSY (SP).

Note: Be sure to replace the removed LOADING ARM ASSY (SP) with a new one.

2. Remove the screw (②) fastening the SPACER PLATE shown in the Fig. 2-30-1 to remove the SPACER PLATE.
3. Remove the LOADING ARM ASSY (TU) shown in the Fig. 2-30-1.

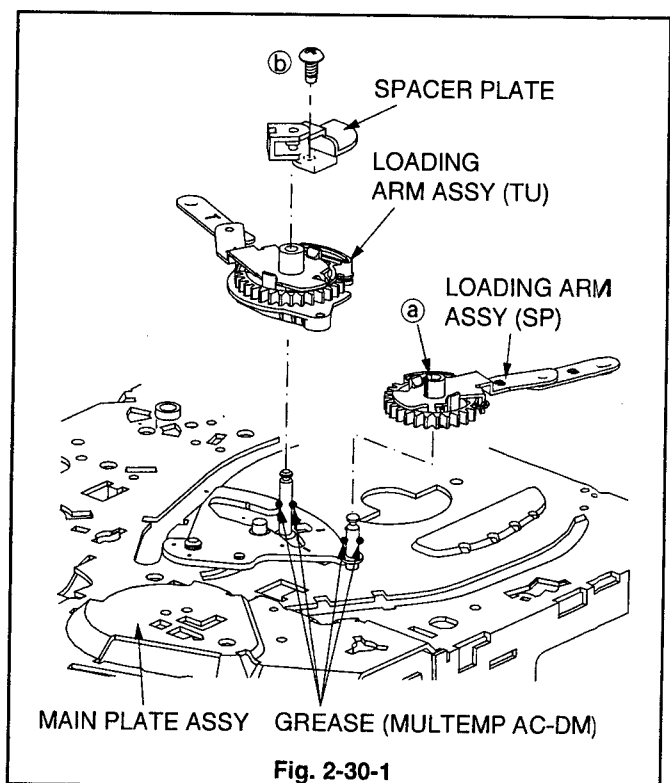
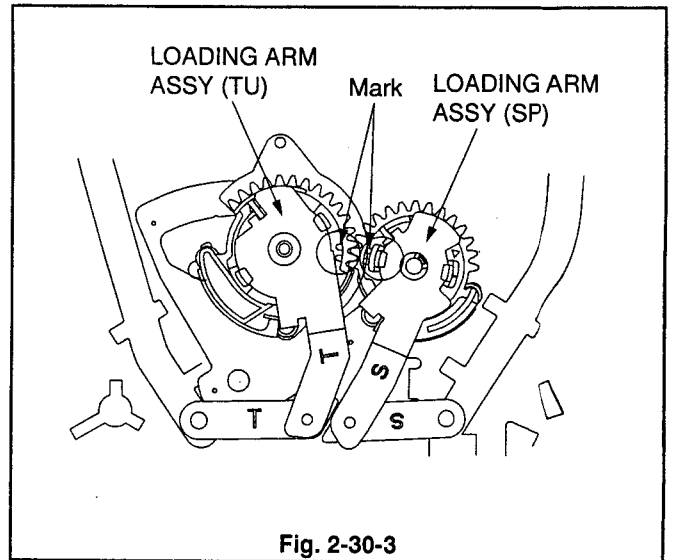
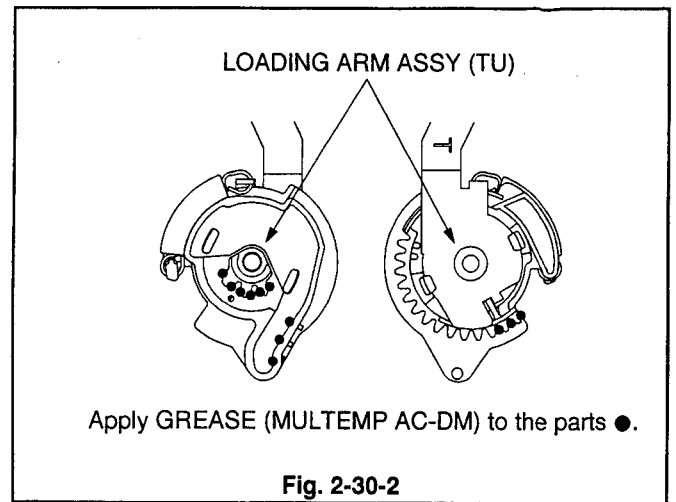


Fig. 2-30-1

(Installation)

1. Apply GREASE (MULTEMP AC-DM)[859D055O90] to the parts on the MAIN PLATE ASSY specified in the Fig. 2-30-1.
 2. Apply GREASE (MULTEMP AC-DM)[859D055O90] to the parts on the LOADING ARM ASSY (TU) specified in the Fig. 2-30-2.
 3. Install the LOADING ARM ASSY (SP) and LOADING ARM ASSY (TU) so that the Marks on the both UNITS face each other, as shown in the Fig. 2-30-3.
- Note :** Be sure to replace the removed LOADING ARM ASSY (SP) with a new one.
4. Install the SPACER PLATE shown in the Fig. 2-30-1.



2-31.A/L LEVER

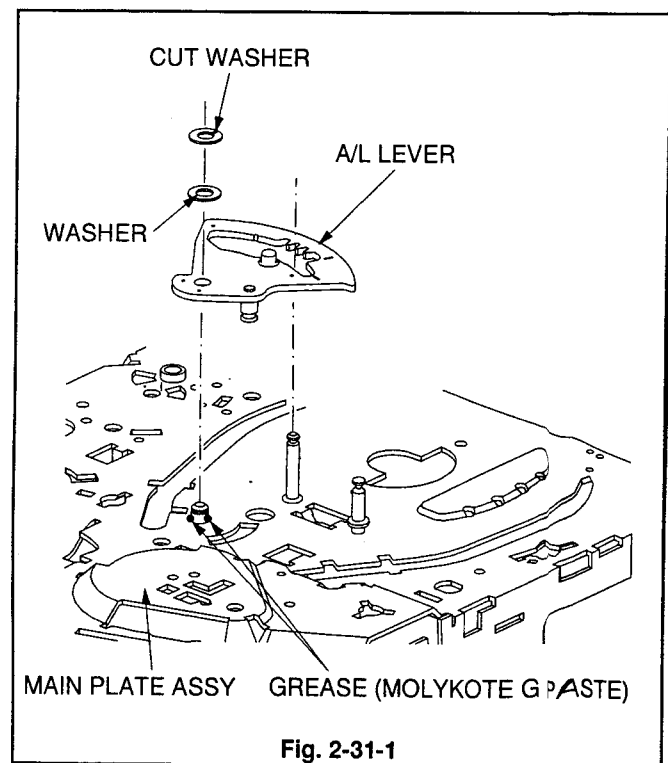
SET POSITION: Upside down

Remove the following parts before replacing the A/L LEVER. Refer to the corresponding items to install them.

- STAY PLATE (Item 2-2)
- BOTTOM ASSY (Item 2-3)
- MOTOR HOLDER (Item 2-16)
- PINCH ARM CAP (Item 2-17)
- PINCH ASSY (Item 2-17)
- BRAKE CAM PLATE (Item 2-19)
- LOADING ARM ASSY (SP) (Item 2-30)
- LOADING ARM ASSY (TU) (Item 2-30)

(Removal)

1. Remove the CUT WASHER and WASHER shown in the Fig. 2-31-1. Then, remove the A/L LEVER.



(Installation)

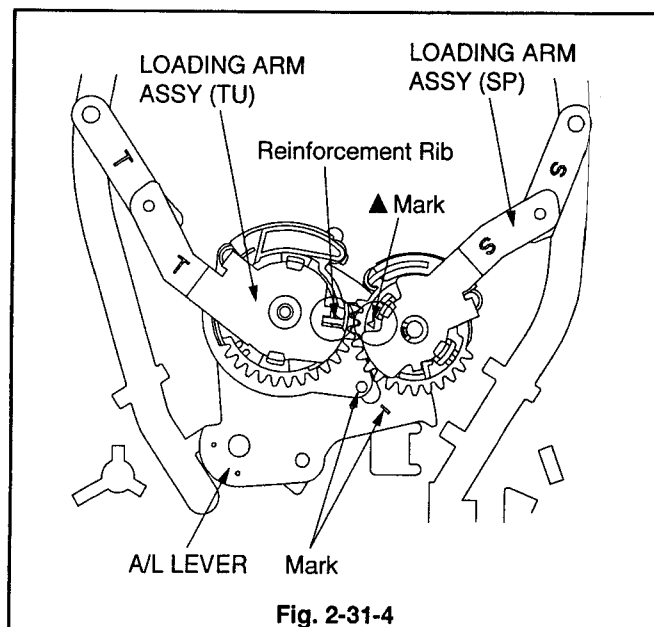
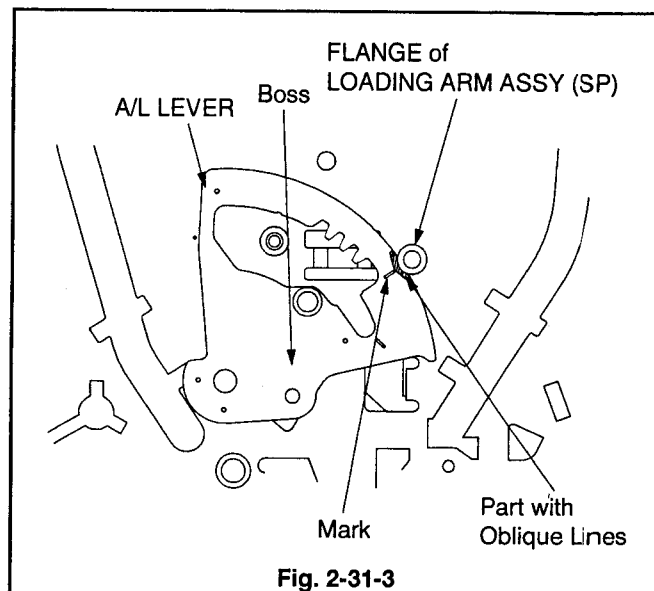
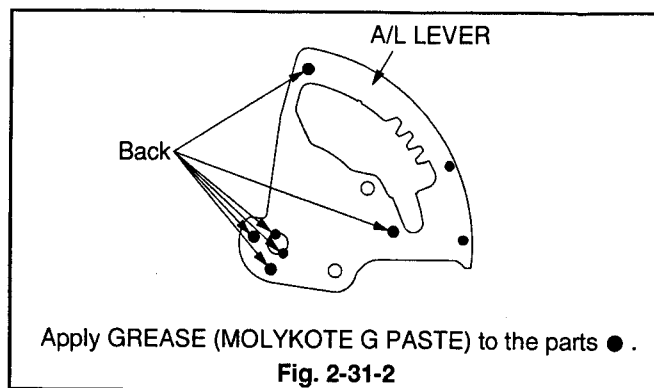
Note : Install the LOADING ARM ASSY (TU) and LOADING ARM ASSY (SP), according to the following procedure, after installing the A/L LEVER.

1. Apply GREASE (MOLYKOTE G PASTE) [859D055O50] to the parts on the MAIN PLATE ASSY specified in the Fig. 2-31-1.
2. Apply GREASE (MOLYKOTE G PASTE) [859D055O50] to the parts on the A/L LEVER specified in the Fig. 2-31-2.
3. Install the A/L LEVER so that the Mark on the A/L LEVER faces to the FLANGE of the LOADING ARM ASSY (SP), as shown in the Fig. 2-31-3.

Note : The Part specified with Oblique Lines on the A/L LEVER should be under the FLANGE of the LOADING ARM ASSY (SP).

4. Install the LOADING ARM ASSY (TU) so that the Marks on the LOADING ARM ASSY (TU) and on the A/L LEVER will face each other, as shown in the Fig. 2-31-4.
5. Install the LOADING ARM ASSY (SP) so that the ▲ mark on the LOADING ARM ASSY (SP) and the Reinforcement Rib of the LOADING ARM ASSY (TU) will face each other, as shown in the Fig. 2-31-4.

Note : Be sure to replace the removed LOADING ARM ASSY (SP) with a new one.



2-32. TAPE GUIDE ASSY (SP), TAPE GUIDE ASSY (TU)

SET POSITION : Normal

Remove the following parts before replacing the TAPE GUIDE ASSY (SP), (TU). Refer to the corresponding items to install them.

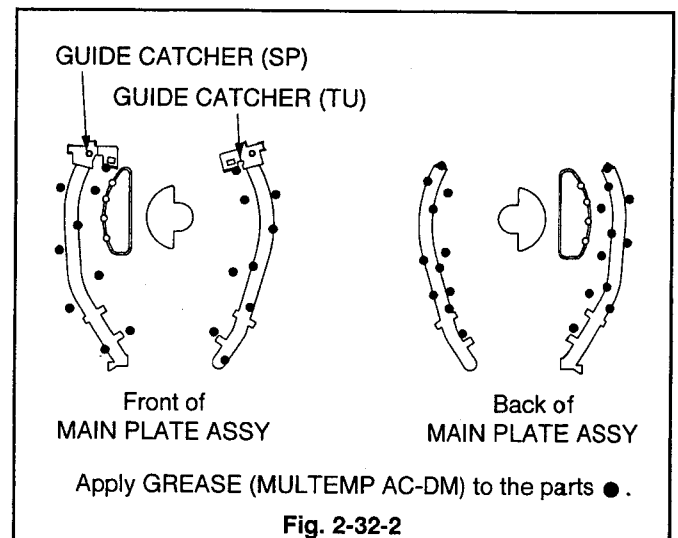
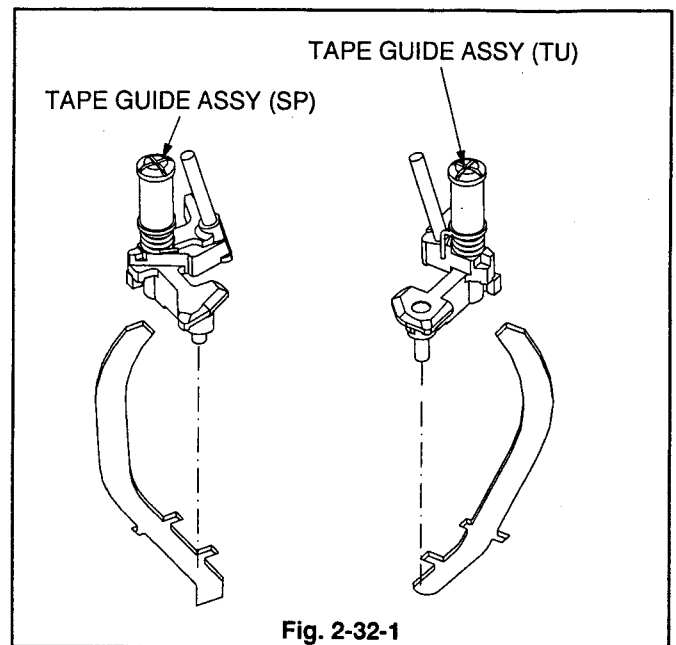
- STAY PLATE (Item 2-2)
- BOTTOM ASSY (Item 2-3)
- MOTOR HOLDER (Item 2-16)
- PINCH ARM CAP (Item 2-17)
- PINCH ASSY (Item 2-17)
- BRAKE CAM PLATE (Item 2-19)
- BRAKE BELT (SP) (Item 2-23)
- BELT HOLDER (Item 2-23)
- BELT LEVER (Item 2-24)
- TENSION ARM (Item 2-25)

(Removal)

1. Loosen the TAPE GUIDE ASSY (SP) shown in the Fig. 2-32-1 (turn it fully in the Unloading direction) to remove it.
2. Loosen the TAPE GUIDE ASSY (TU) shown in the Fig. 2-32-1 (turn it fully in the Unloading direction) to remove it.

(Installation)

1. Apply GREASE (MULTEMP AC-DM)[859D055O90] to the parts on the MAIN PLATE ASSY specified in the Fig. 2-32-2.
2. Install the TAPE GUIDE ASSY (SP) shown in the Fig. 2-32-1.
3. Install the TAPE GUIDE ASSY (TU) shown in the Fig. 2-32-1.
4. Perform the Item 3-2-1. "GUIDE ROLLER Check" to the Item 3-2-5. "Flatness Check of FM Waveform" of the "Interchangeability Adjustment of the Mechanism".



2-33. GUIDE ARM (SP)

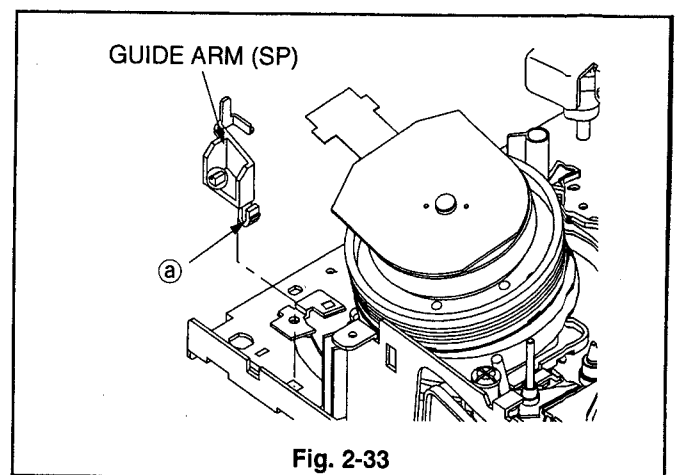
SET POSITION : Normal

(Removal)

1. Release the catch (Ⓐ) of the GUIDE ARM (SP) shown in the Fig. 2-33 to remove the GUIDE ARM (SP).

(Installation)

1. Install the GUIDE ARM (SP) shown in the Fig. 2-33.



2-34.DRUM CLAMPER, DRUM ASSY

SET POSITION : Normal

(Removal)

1. Disconnect the LEAD CONNECTOR of the DRUM ASSY shown in the Fig. 2-34-1.
2. Remove the two screws (a, b) fastening the DRUM CLAMPER shown in the Fig. 2-34-1 to remove the DRUM ASSY with the DRUM CLAMPER.
3. Rotate the DRUM CLAMPER in the Fig. 2-34-2 in the direction shown by the arrow A to remove it from the DRUM ASSY.

(Installation)

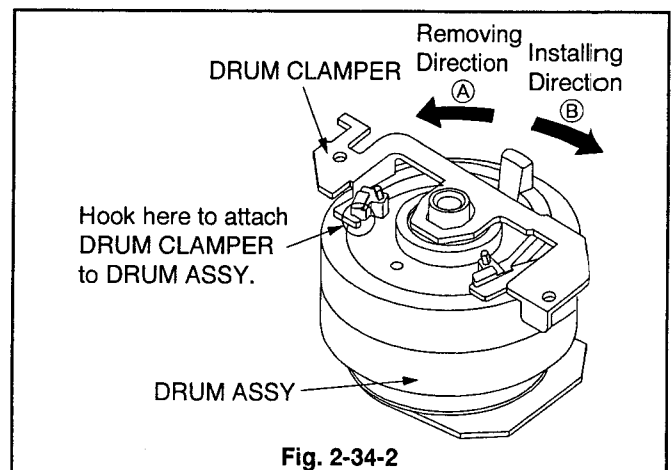
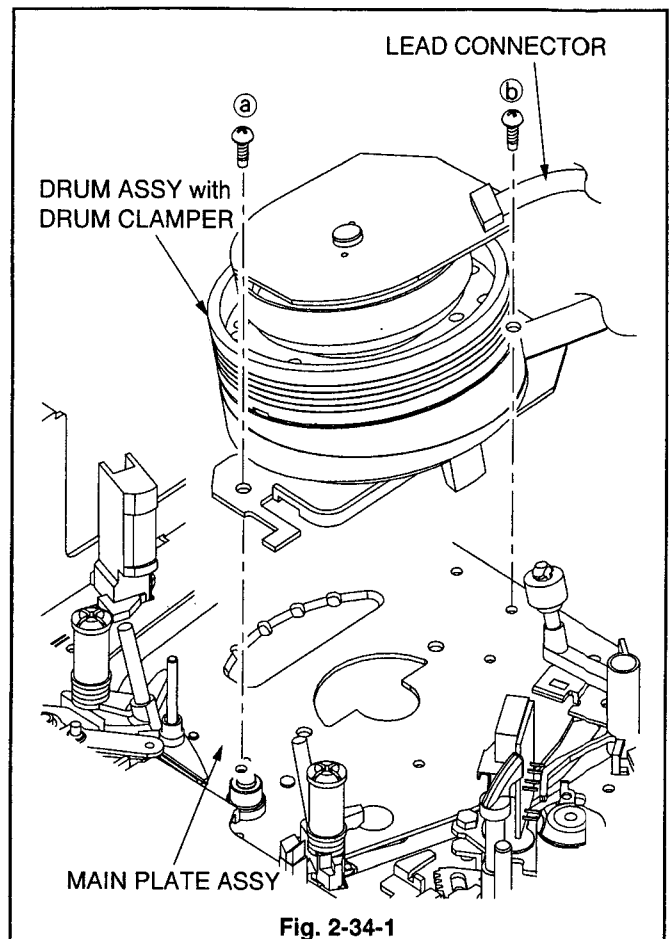
1. Install the DRUM CLAMPER in the Fig. 2-34-2 to the DRUM ASSY by rotating it in the direction shown of the arrow B.
2. Hook the Catch of the DRUM CLAMPER shown in the Fig. 2-34-3 to the Reference Pin.
3. Fasten the screw (b) while pushing the Part A in the direction shown by the arrow C (clockwise when viewed from the top) as shown in the Fig. 2-34-3.

Note : Confirm at this time that the Catch of the DRUM CLAMPER touches the side of the Reference Pin.

4. Fasten the screw (a) shown in the Fig. 2-34-3.

Note : Confirm at this time that the Catch of the DRUM CLAMPER touches the side of the Reference Pin.

5. Connect the LEAD CONNECTOR of the DRUM ASSY with the DRUM CLAMPER shown in the Fig. 2-34-1.
6. Connect the LEAD CONNECTOR of the DRUM ASSY shown in the Fig. 2-34-1.
7. Perform the Item "PLAYBACK Switching Point" of the "Circuit Adjustment" in this service manual.
8. Perform the Item "Interchangeability Adjustment of the Mechanism".
9. Clean the DRUM ASSY shown in the Fig. 2-34-1 with alcohol.



2-35. DRUM MOTOR STATOR, BRUSH SPRING, SPACER, ROTOR CASE, END RING, BRUSH, UPPER DRUM ASSY

SET POSITION : Normal

(Removal)

1. Disconnect the LEAD CONNECTOR of the DRUM ASSY shown in the Fig. 2-35-1.
2. Remove the two screws (a) fastening the DRUM MOTOR STATOR shown in the Fig. 2-35-1 to remove the DRUM MOTOR STATOR.
3. Remove the two screws (b) fastening the ROTOR CASE shown in the Fig. 2-35-1 to remove the ROTOR CASE.

Note : Mark on the END RING and UPPER DRUM ASSY shown in the Fig. 2-35-1 using a pen, etc. for convenience in installing them.

4. Loosen the hexagon screw (c) fastening the END RING shown in the Fig. 2-35-1 to remove the END RING.
5. Remove the BRUSH SPRING shown in the Fig. 2-35-1.
6. Remove the BRUSH shown in the Fig. 2-35-1.
7. Remove the UPPER DRUM ASSY shown in the Fig. 2-35-1.
8. Remove the SPACER shown in the Fig. 2-35-1.

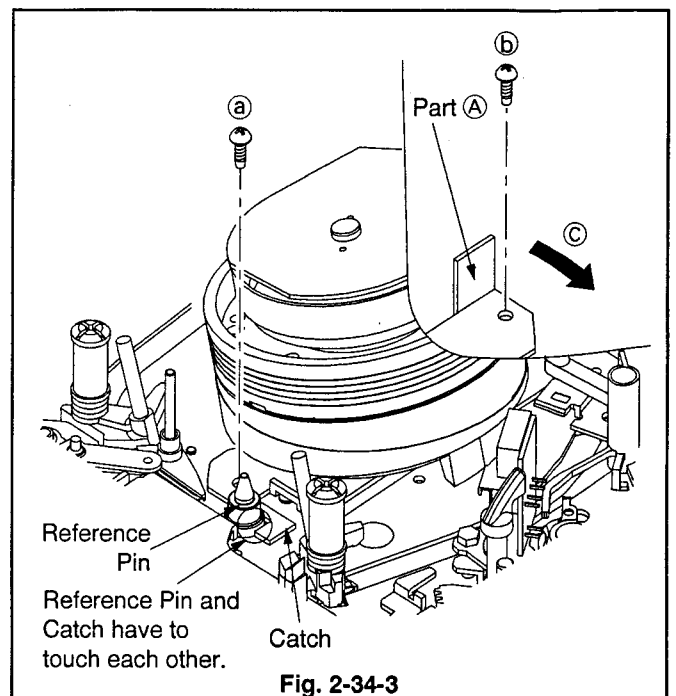


Fig. 2-34-3

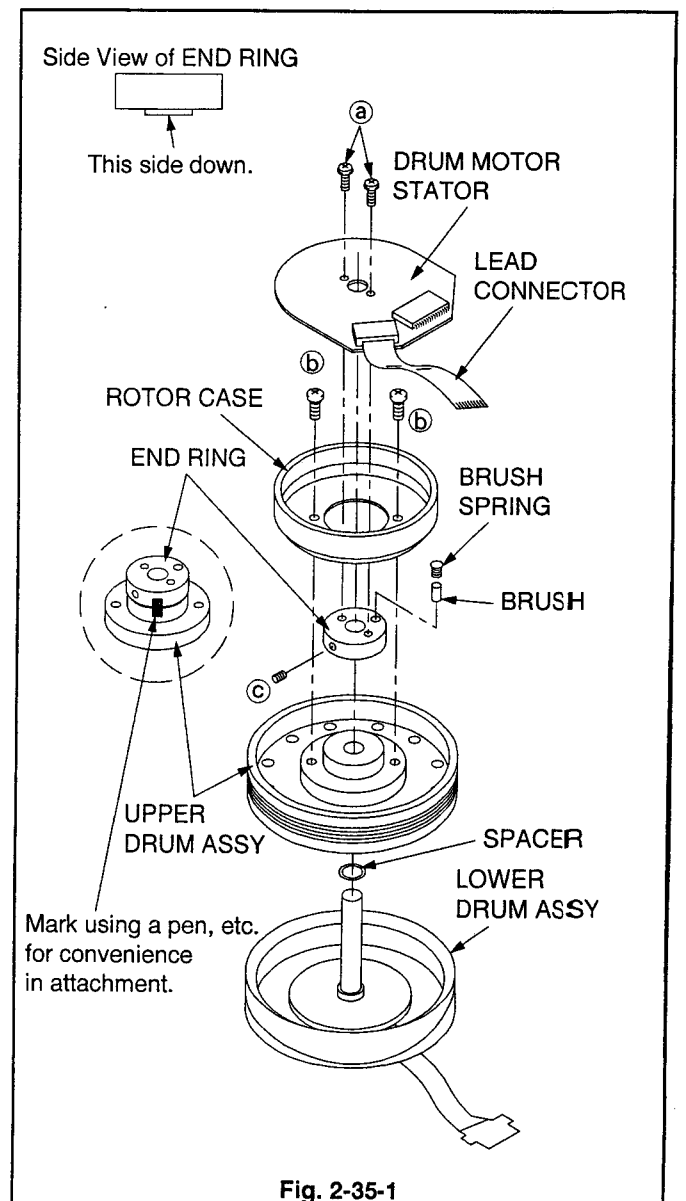


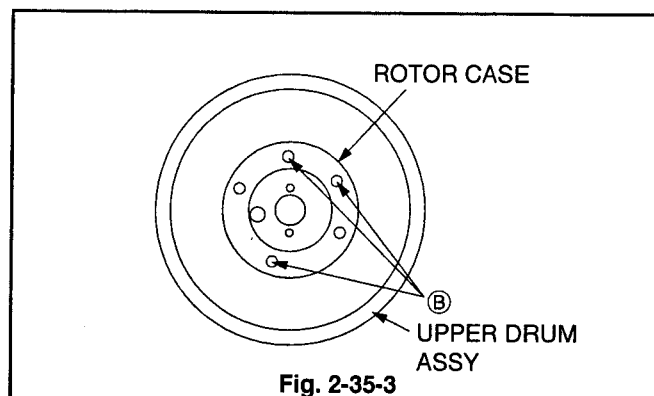
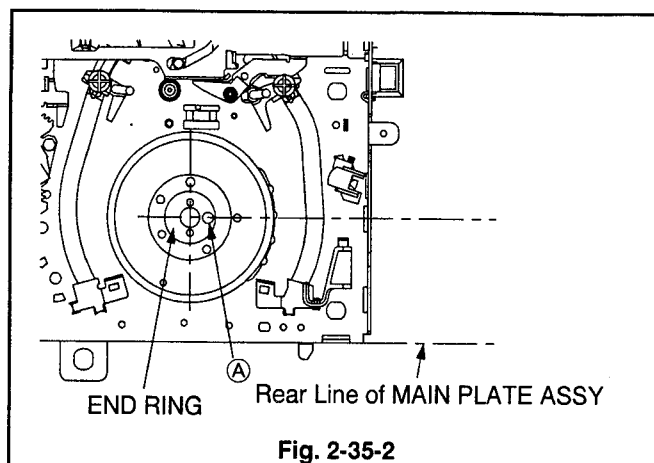
Fig. 2-35-1

(Installation)

1. Install the SPACER shown in the Fig. 2-35-1.

Note : Be sure to use the new SPACER packed with the new UPPER DRUM ASSY.

2. Install the UPPER DRUM ASSY shown in the Fig. 2-35-1.
3. Install the END RING so that the reference hole (A) of the END RING shown in the Fig. 2-35-2 will be placed in parallel with the Rear Line of the MAIN PLATE ASSY. (The reference hole (A) should be on the right when viewed from the bottom.)
4. Apply the screw-sealing agent to the hexagon screw (C) fastening the END RING shown in the Fig. 2-35-1.
5. Install the ROTOR CASE shown in the Fig. 2-35-3, matching its Holes with the three reference holes (B) of the UPPER DRUM ASSY.
6. Install the BRUSH shown in the Fig. 2-35-1.
7. Install the BRUSH SPRING shown in the Fig. 2-35-1.
8. Install the DRUM MOTOR STATOR shown in the Fig. 2-35-1.
9. Connect the LEAD CONNECTOR of the DRUM ASSY shown in the Fig. 2-35-1.
10. Perform the Item "PLAYBACK Switching Point" adjustment.
11. Perform the Item "Interchangeability Adjustment of the Mechanism".
12. Clean the DRUM ASSY with alcohol.



2-36. CAPSTAN MOTOR

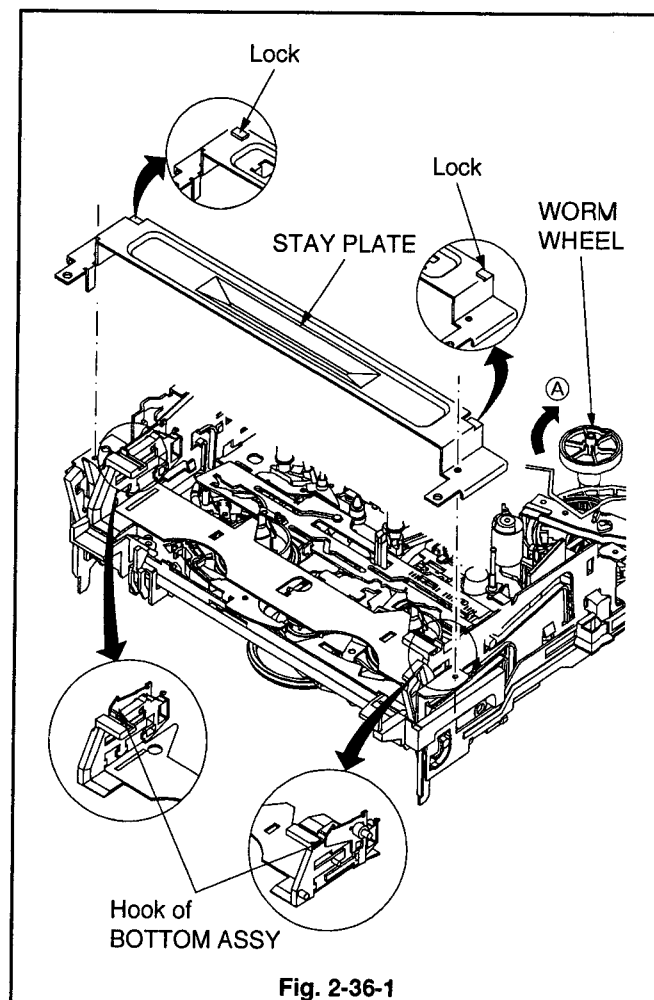
SET POSITION : Normal

Remove the following part before replacing the CAPSTAN MOTOR. Refer to the corresponding item to install it.

- REEL BELT (Item 2-14.)

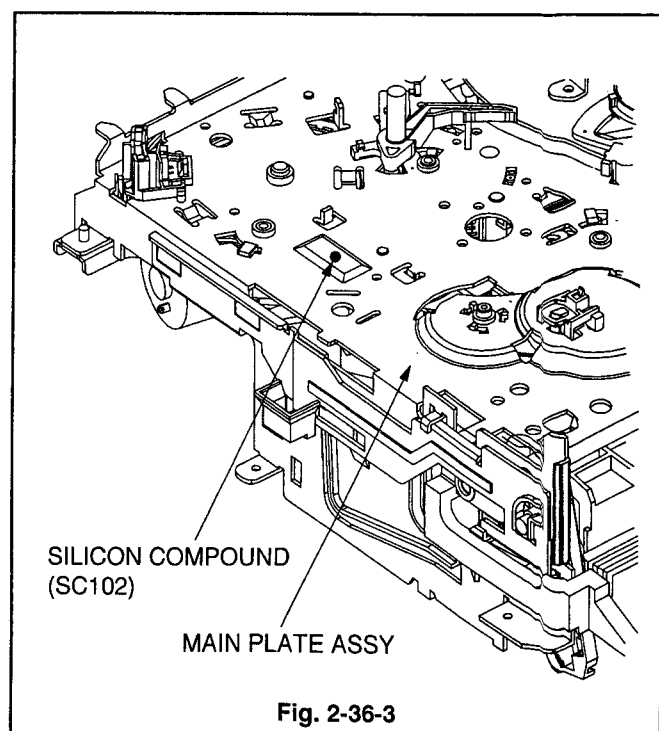
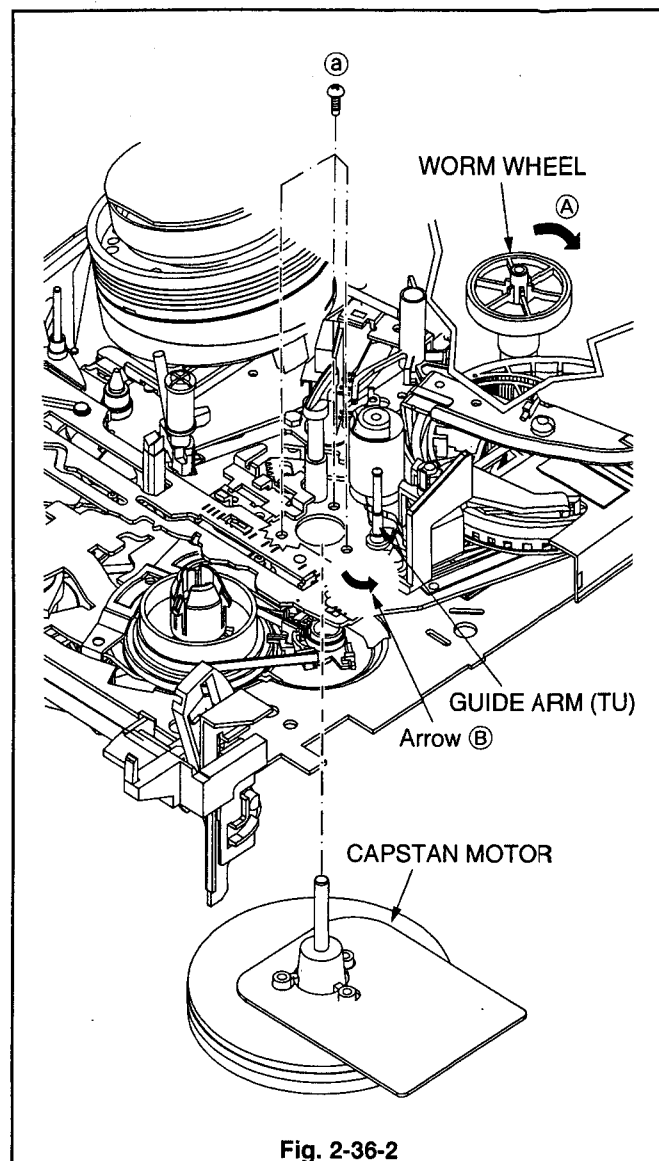
(Removal)

1. Rotate the WORM WHEEL in the Fig. 2-36-1 in the direction shown by the arrow (A) to release the Hooks of the BOTTOM ASSY from the Locks of the STAY PLATE.
2. Rotate the WORM WHEEL in the Fig. 2-36-2 in the direction shown by the arrow (A) so that the GUIDE ARM (TU) moves in the direction of arrow (B) and expose the three screws (a) fastening the CAPSTAN MOTOR.
3. Remove the three screws (a) fastening the CAPSTAN MOTOR shown in the Fig. 2-36-2 to remove the CAPSTAN MOTOR.



(Installation)

1. Apply SILICON COMPOUND (SC102) [859D164O10] to the parts on the MAIN PLATE ASSY specified in the Fig. 2-36-3.
2. Install the CAPSTAN MOTOR.



3. Interchangeability Adjustment of the Mechanism

Note 1 : Tracking may need to be preset during interchangeability adjustment of the mechanism. Digital tracking is preset by short circuiting TP5A and TP5B on the PCB-MAIN.

Note 2 : The adjustments are performed in the PLAYBACK mode, using the staircase signal of an alignment tape, unless otherwise specified. Connect an oscilloscope to TP2A and externally trigger from TP2H.

3-1. Adjustment of BACK TENSION and TENSION POLE's Position

Run a Blank Tape for several minutes to break in the REEL DISKS and the Tape Running System before the adjustment.

1. Play back a dummy Tape.
2. Confirm that "A", the distance between the Holes in the TENSION ARM and the MAIN PLATE ASSY shown in the Fig. 3-1-1, is $0.6 \pm 0.5\text{mm}$.
3. If "A" is not $0.6 \pm 0.5\text{mm}$, move the Hole in the BELT ADJUSTER in the Fig. 3-1-2 within the range shown by the arrow (A) to set "A" at $0.6 \pm 0.5\text{mm}$.
4. Set the BACK TENSION measuring jig (Code: 859C345O80) and play-back the tape.
5. Confirm that "A" shown in the Fig. 3-1-1 is $0.0 \pm 0.5\text{mm}$.
6. If "A" is not $0.0 \pm 0.5\text{mm}$ at step 5, repeat the adjustment from step 1.
7. Confirm that the indicated value of the BACK TENSION measuring jig is within $5.5 \pm 6\text{ g/cm}$.

Note 1 : Check the indicated value of the BACK TENSION measuring jig when the tape running condition becomes steady.

Note 2 : Replace the TENSION SPRING if the indicated value exceeds the specified value.

8. While the tape is running steadily, check visually that the vibration range of the TENSION POLE is 1mm or less. If the vibration range exceeds 1mm, replace the REEL DISK.

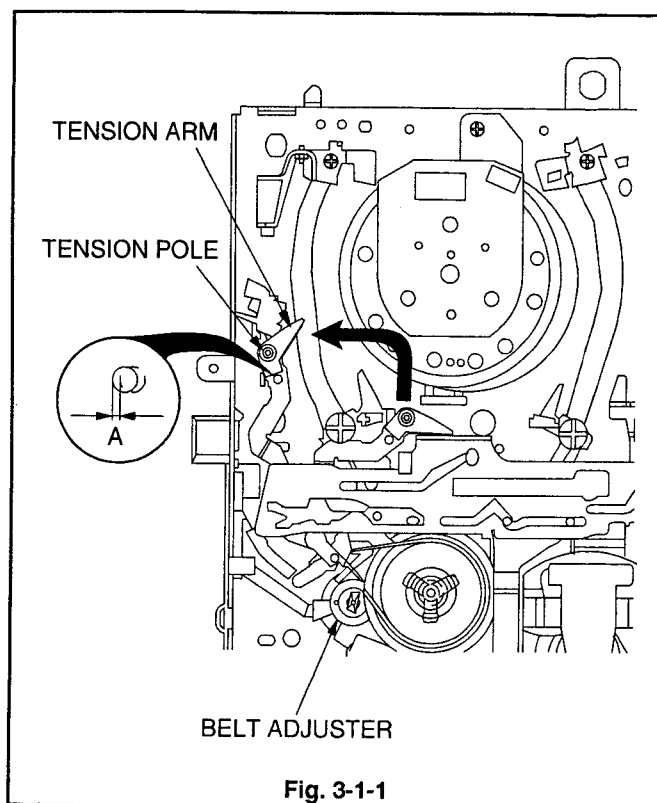


Fig. 3-1-1

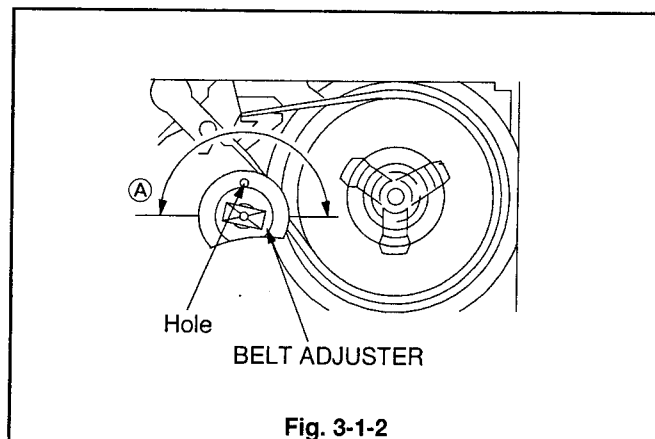


Fig. 3-1-2

3-2. Check and Adjustment of the FM Envelope

3-2-1. GUIDE ROLLER Adjustment check

1. Play back an alignment tape (PM6KH3 : 859C339O30).
2. Preset the tracking.
3. Confirm that the FM Waveform is flat such as in (A).
4. Perform the Item 3-2-2. "Height Adjustment of GUIDE ROLLER (SP)" if the leading edge (the DRUM entry side) of the FM Waveform is not flat (Waveform (B) or (C)). Perform the Item 3-2-3. "Height Adjustment of GUIDE ROLLER (TU)" if the trailing edge (the DRUM exit side) is not flat (Waveform (D) or (E)).

3-2-2. Height Adjustment of GUIDE ROLLER (SP)

1. Loosen the height adjustment screw at the top of the GUIDE ROLLER (SP) so that the GUIDE ROLLER (SP) will rotate smoothly.
2. Observe the leading edge (DRUM entry side) of the FM Waveform. If it looks like (B), the GUIDE ROLLER may be set too low. If it looks like (C), the GUIDE ROLLER may be set too high. To adjust it, turn the height adjustment screw at the top of the GUIDE ROLLER (SP) so that the FM Waveform becomes flat such as in (A).
 - Turn the screw counter-clockwise if the position of the GUIDE ROLLER is lower than specified.
 - Turn the screw clockwise if the position of the GUIDE ROLLER is higher than specified.
3. Perform the Item 3-2-4. "Coarse Adjustment of Phase".

3-2-3. Height Adjustment of GUIDE ROLLER (TU)

1. Loosen the height adjustment screw at the top of the GUIDE ROLLER (TU) so that the GUIDE ROLLER (TU) will rotate smoothly.
2. Observe the trailing edge (DRUM exit side) of the FM Waveform. If it looks like (D), the GUIDE ROLLER may be set too low. If it looks like (E), the GUIDE ROLLER may be set too high. To adjust it, turn the height adjustment screw at the top of the GUIDE ROLLER (TU) so that the FM Waveform becomes flat as in (A).
 - Turn the screw counter-clockwise if the position of the GUIDE ROLLER is too low.
 - Turn the screw clockwise if the position of the GUIDE ROLLER is too high.
3. Perform the Item 3-2-4. "Coarse Adjustment of Phase".

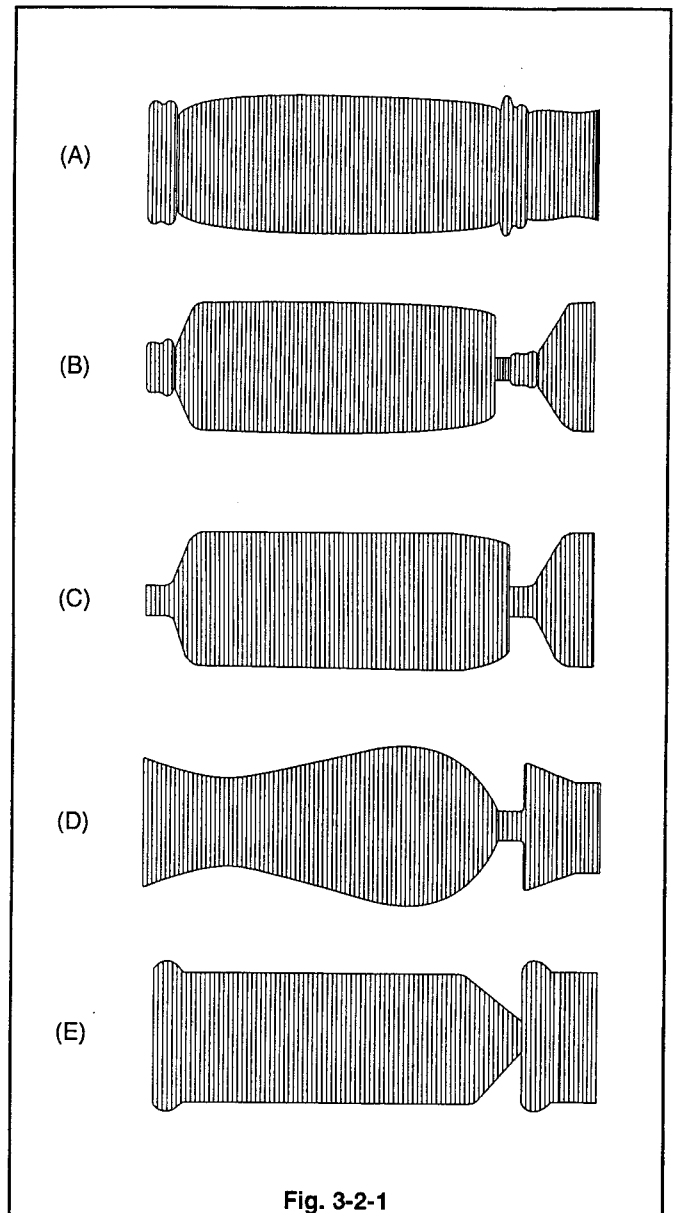


Fig. 3-2-1

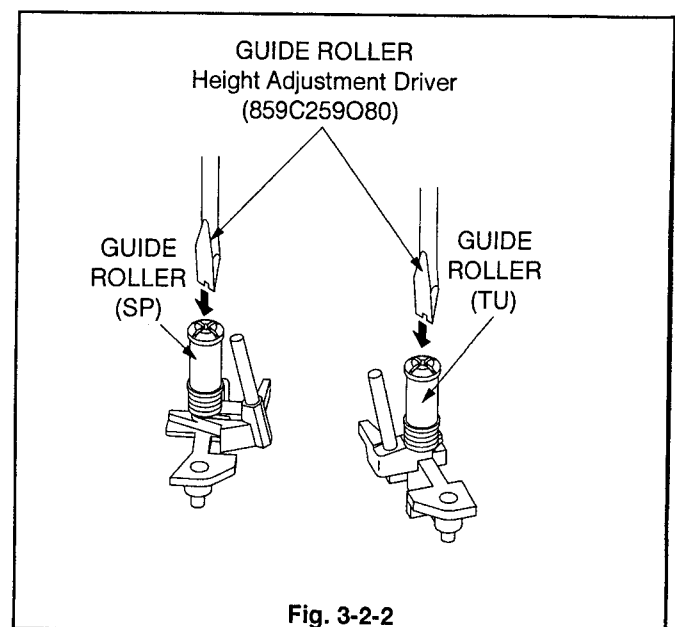


Fig. 3-2-2

3-2-4. Coarse Adjustment of Phase

1. Play back an alignment tape (PM6KH3 : 859C339O30).
2. Preset the tracking.
3. Observe the FM Waveform after performing Item 3-2-1. "GUIDE ROLLER Check".
4. If the amplitude level of the FM Waveform is low as in (F) in Fig. 3-2-4, set it at the maximum level as in (G), according to the following procedure. Loosen the Screws D and E and insert a screw driver (+) into the Hole in the MAIN PLATE ASSY (Part ①). Then, move the A/C PLATE to the right and left to set the amplitude level to maximum.
5. Tighten the Screws D and E.

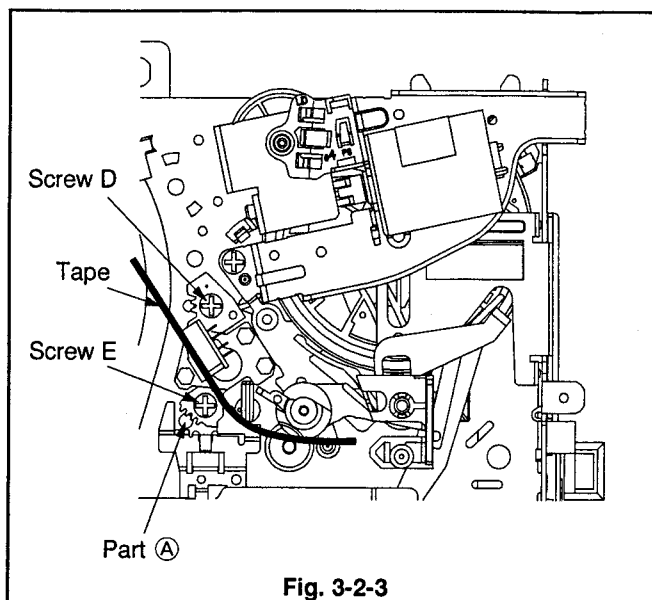


Fig. 3-2-3

3-2-5. Flatness Check of FM Waveform

1. Play back an alignment tape (PM6KH3 : 859C339O30).
2. Adjust the tracking and confirm that the amplitude of the FM signal remains flat.

Note : Press the tracing (+) and (−) button during play back to adjust tracking.

3. Adjust the tracking so that the amplitude level of the FM Waveform will be at the maximum. Set the oscilloscope so that the amplitude level of the FM Waveform is 5 divisions on the oscilloscope.
4. Adjust the tracking so that the peak of the FM Output Waveform is 4 divisions. Confirm that the FM Waveforms (B), (C), (D) and (E) are within the range of the specified values in the Fig. 3-2-5.
5. If the Waveforms are out of the specified values in step 4, repeat the Item 3-2. "Check and Adjustment of FM Envelope" from the beginning.

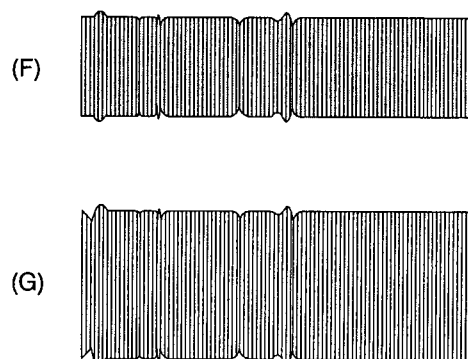


Fig. 3-2-4

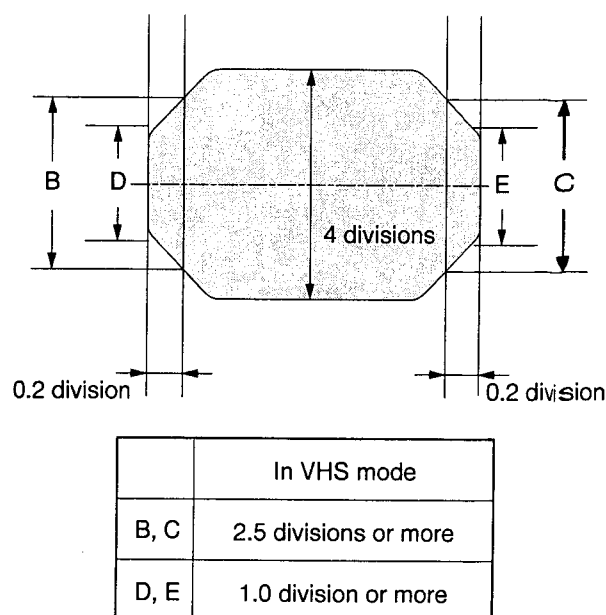
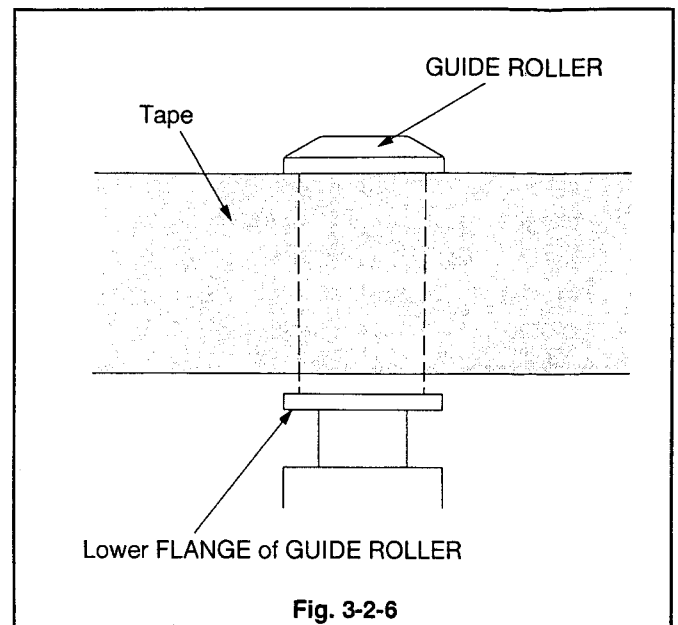


Fig. 3-2-5

3-2-6. Tape Running Condition at the GUIDE ROLLERS (Check 1)

1. Play back an Alignment Tape.
(PM6KH3 : 859C339O30)
2. Confirm visually that there is a space between the Tape and the Lower FLANGE of the GUIDE ROLLER (SP) and the GUIDE ROLLER (TU).
3. If there is no space in step 2, replace the TAPE GUIDE ASSY (SP) and TAPE GUIDE ASSY (TU), according to the Item 2-32. "TAPE GUIDE ASSY (SP), TAPE GUIDE ASSY (TU)".
4. Alternately load and unload the tape several times and confirm that the FM Waveform remains flat.
5. If the flatness is affected, check the position of the A/C HEAD. If it is installed incorrectly, correct it according to the Item 2-8. "A/C HEAD UNIT" and repeat Item 3-2-4. "Coarse Adjustment of Phase".



3-2-7. Tape Running Condition at the GUIDE ROLLERS (Check 2)

1. Play back an alignment tape (PM6KH3 : 859C339O30).
2. Check that the FM Waveform is quickly restored to the previous level, after lightly pressing and releasing the tops of the GUIDE ROLLER (SP) and GUIDE ROLLER (TU).
3. If the FM Waveform is not restored immediately, replace the TAPE GUIDE ASSY (SP) and TAPE GUIDE ASSY (TU) according to the Item 2-32. "TAPE GUIDE ASSY (SP), TAPE GUIDE ASSY (TU)".

3-3. A/C HEAD Adjustment

3-3-1. Slant Adjustment of A/C HEAD

1. Play back a blank tape.
2. Slowly turn the slant adjustment Screw C shown in the Fig. 3-3-1 counter-clockwise to slightly crease the bottom of the tape at the Lower FLANGE of the GUIDE POLE (TU).
3. Slowly return the slant adjustment Screw C to remove the crease.
4. Slowly turn the slant adjustment Screw C counter-clockwise again and stop just before the tape is creased.

3-3-2. Azimuth and Height Adjustment of A/C HEAD

1. If the height of the CONTROL HEAD is shifted from the specified value in the Fig. 3-3-2, adjust it with the Height Adjustment Screws A, B and C shown in the Fig. 3-3-1.
2. After adjustment with the Screws A, B or C, repeat the Item 3-3-1. "Slant Adjustment of A/C HEAD".
3. Connect the oscilloscope to the audio output terminal.
4. Play back an alignment tape (PM6KH3 : 859C339O30).
5. Turn the Azimuth Adjustment Screw B in the Fig. 3-3-1 to set the audio output level in the Fig. 3-3-3 at the maximum. After the adjustment, remove the screw driver and confirm that the audio output level is 4.6 divisions or more when the maximum audio output level is set to 5. If the audio output level is less than 4.6, repeat steps 1 ~ 5.
6. Push the A/C HEAD to the right and left (in the direction of A-A' in the Fig. 3-3-1) and release it. And confirm that the audio output level does not change. (Do not push the A/C HEAD until the audio output level is reduced to 3/4 or less of its maximum level.)
7. Confirm that changes in the audio output level are 2dB or less in the PLAYBACK mode.
8. If the change in the audio output level exceeds 2dB, repeat the Item 3-3-1. "Slant Adjustment of A/C HEAD".
9. If the above procedure steps 1 ~ 8 proves to be unsatisfactory, replace the TAPE GUIDE ASSY (SP) and the TAPE GUIDE ASSY (TU), according to the Item 2-32. "TAPE GUIDE ASSY (SP), TAPE GUIDE ASSY (TU)".

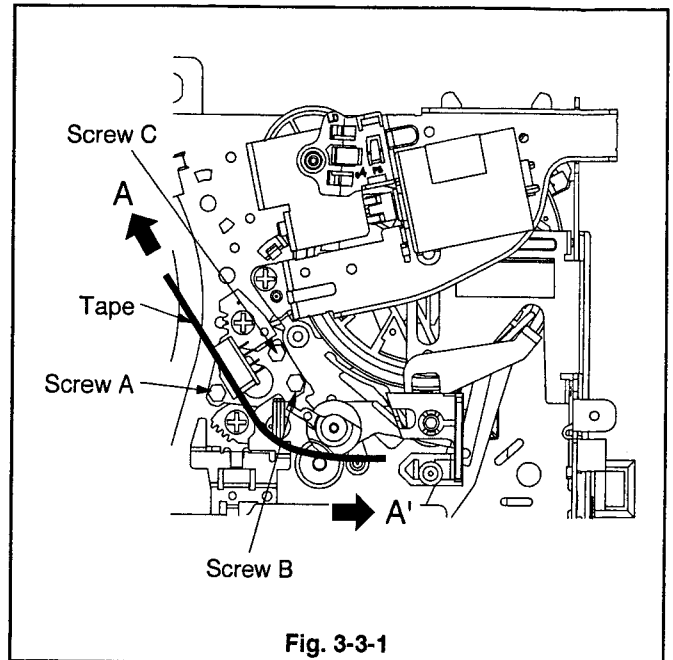


Fig. 3-3-1

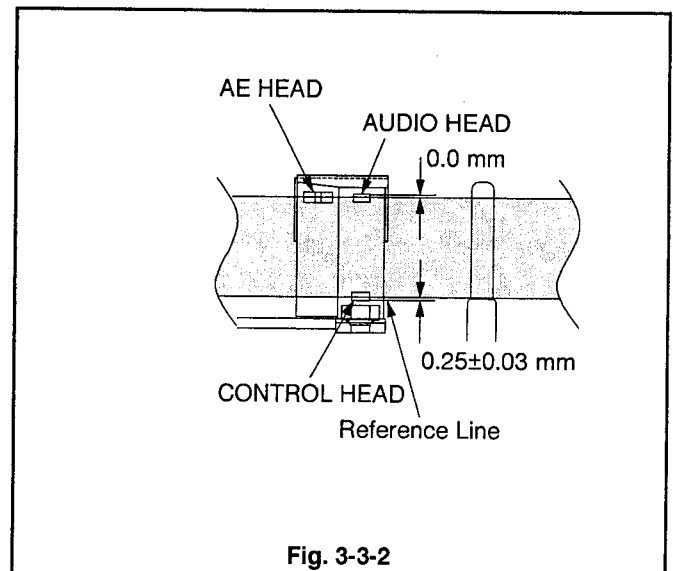


Fig. 3-3-2

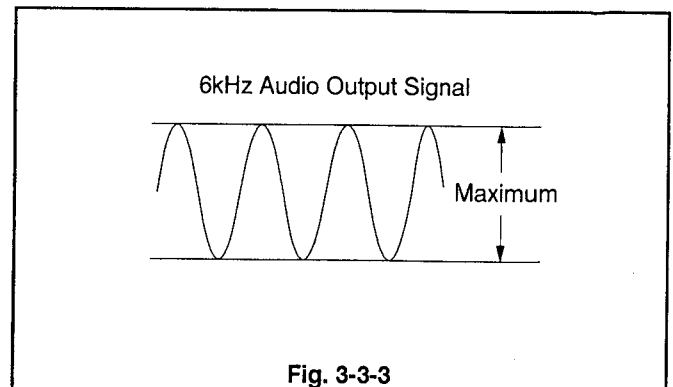


Fig. 3-3-3

3-4. Phase Adjustment

1. Play back an alignment tape (PM6KH3 : 859C339O30).
2. Preset the tracking.
3. Trigger at TP2H.
4. Loosen the Screws D and E shown in the Fig. 3-4-1. Insert a screw driver (+) into the Hole in the MAIN PLATE ASSY (Part A) and move the A/C PLATE to the right and left to set the amplitude level of the FM Waveform to maximum. (Adjust the FM Waveform to be the maximum when the waveform at TP2H is High.)
5. Tighten the Screws D and E.
6. Play back an alignment tape [PMX : 859C568O70].
7. Confirm the Missing Portions of the FM Waveform and Audio Waveform are as shown in the Fig. 3-4-2.
8. If the Missing Portions differ from the Fig. 3-4-2, repeat the procedure 3.
9. Adjust the tracking so that the amplitude level of the FM Waveform will be at the maximum. And set the oscilloscope so that the Waveform will be 5 divisions of the oscilloscope.
10. Preset the tracking.
11. Confirm that the FM Waveform on the oscilloscope is 4.8 divisions or more.
12. If the FM Waveform is below 4.8 divisions, preset the tracking and repeat steps 3~10.
13. Push the A/C HEAD to the right and left (in the direction of A-A' in the Fig. 3-4-1) and release it. Confirm that the amplitude of the FM Waveform does not change, compared to before the A/C HEAD was shifted.
14. If the amplitude level of the FM Waveform changes, check the set position of the A/C HEAD. If the A/C HEAD is installed incorrectly, correct the position according to the Item 2-8. "A/C HEAD UNIT" and 3-3. "A/C HEAD Adjustment", and then repeat this item from the beginning.
15. Alternately load and unload the tape several times. Confirm that the amplitude of the FM Waveform does not change.

3-5. Tape wrinkle check

1. Confirm that there is no wrinkle at the lower edge of GUIDE POLE (TU) in PB/FS mode with E-240 tape beginning and ending.
2. Confirm that there is no wrinkle at the upper edge of GUIDE PIN (TU) in RS mode with E-240 tape beginning and ending.

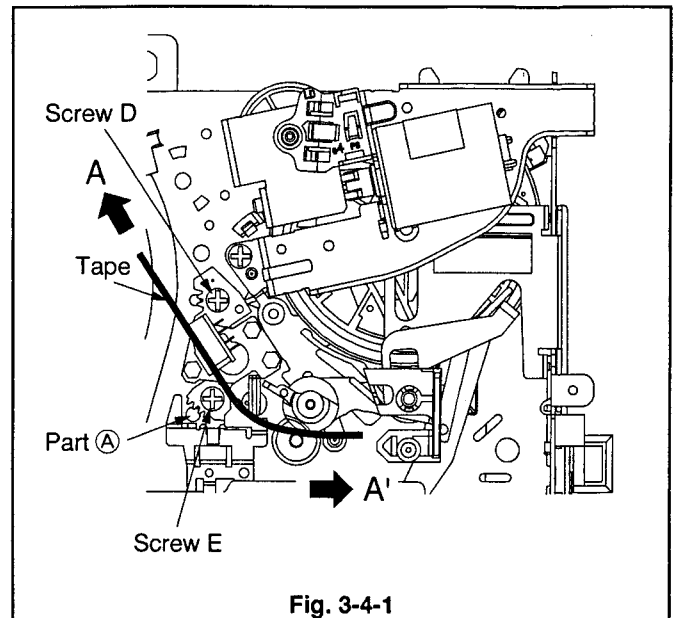


Fig. 3-4-1

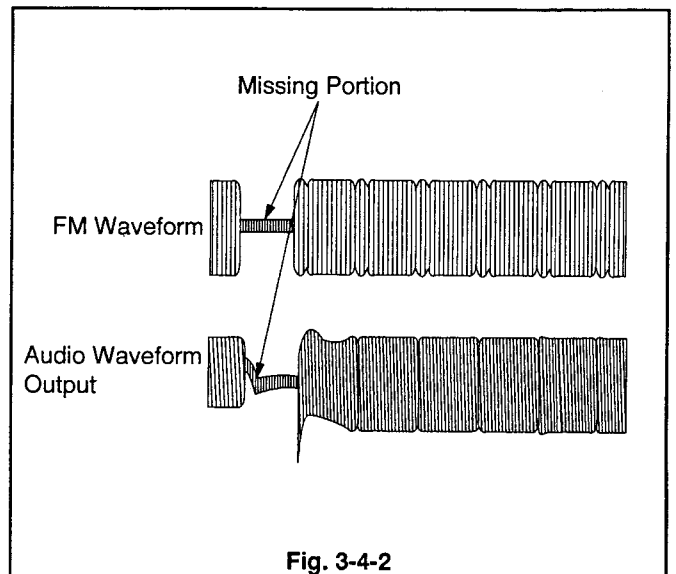


Fig. 3-4-2

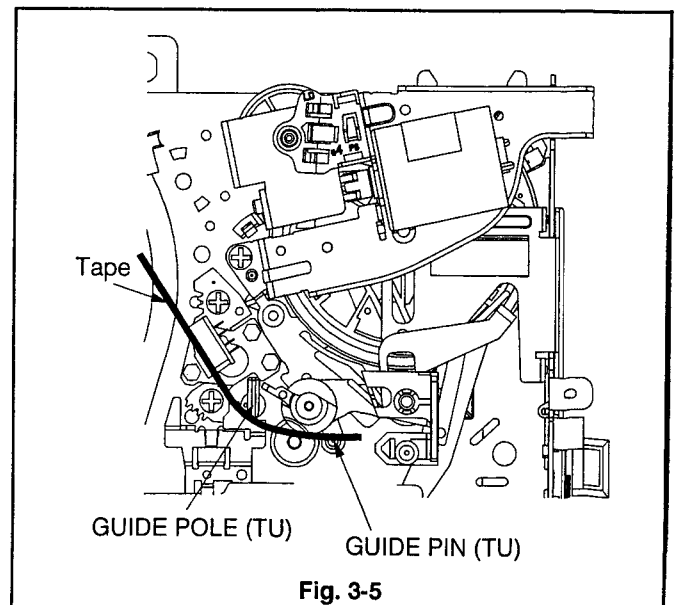
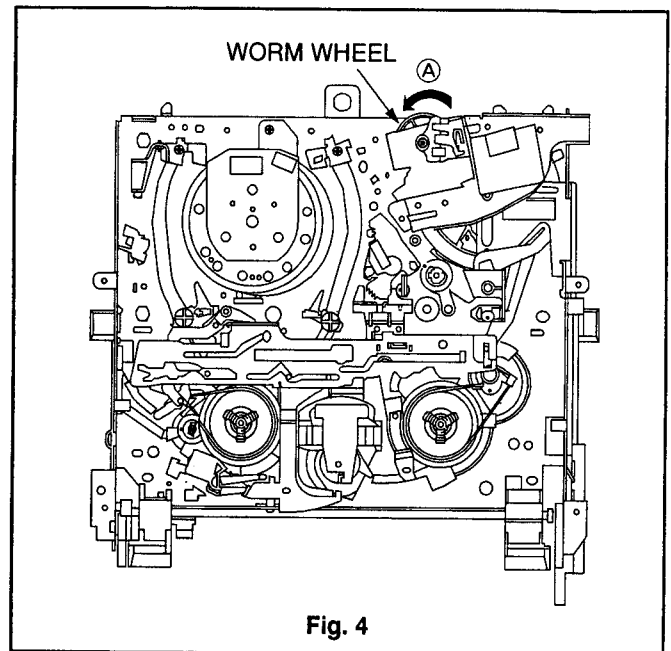


Fig. 3-5

4. Servicing for Tape Jam during the Loading Process

1. Remove the tape if the mechanism part is locked due tangled tape.
2. Rotate the WORM WHEEL of the LOADING MOTOR ASSY shown in the Fig. 4 in the direction of the arrow ① to eject the cassette tape.



GLOSSARY OF ABBREVIATIONS

A/C	: Audio/Control	JSTCLK	: Just Clock
A-PB	: Audio Play Back	LIN-IN	: Linear Audio In
A-REC	: Audio Recording	LIN-OUT	: Linear Audio Out
AE	: Audio Erase	LMUTE	: Linear Mute
AENV	: Audio Envelope	LP	: Long Play
AFC	: Automatic Frequency Control	MOD	: Modulator
AFF	: Audio Flip Flop	MOTORV	: Motor Voltage
AFTV	: Auto Fine Tuning Voltage	NL	: Non Linear
ALC	: Automatic Level Control	OSC	: Oscillator
AMODE	: Audio Mode	PB	: Play Back
AMPC	: Amplifier Alternating Current Ground	PC	: Position Control
APC	: Automatic Phase Control	PCB	: Printed Circuit Board
ATFN	: Auto Fine	PG	: Pulse Generator
ATT	: Attenuator	PLL	: Phase Locked Loop
BLMUTE	: Blue Back Mute	PRT	: Protect
C/N	: Carrier/Noise Ratio	PSAVE	: Power Save
CCD	: Charge Coupled Device	PSLED	: Power Save Light Emitting Diode
CG-CS	: Character Generator-Chip Slect	PSYNC	: Pretened Vartical Synchronizing Signal
CHSW	: Channel Switch	PWSV	: Power Save
CLKSEL	: Clock Select	PWV	: ON/OFF Command to supply B + Power
CNTR	: Counter	QH	: Cue Horizontal Signal
COM	: Comparator	QV	: Cue Vertical Signal
CONV SW	: Converter Switch	REC	: Recording
CP-FG	: Capstan-Frequency Generator	REC2	: Record Command for the PB/REC Control Circuit
CP-REV	: Capstan-Reverse	RECPBC	: Record/Play Back Chroma Signal
CPMOTORV	: Capstan Motor Voltage	RES	: Reset
CROT	: Chroma Rotation	RESPCM	: Reset Pulse Code Modulation
CSYNC	: Composite Synchronizing Signal	REW	: Rewind
CTL	: Control	RIS	: Record Inhibit Switch
D.E.	: Detail Enhancer	RMSDET	: Root Mean Square Detector
D-FF	: Drum Flip Flop	RS	: Reverse Search
DEMOD	: Demodulator	RXD	: Read X Data
DET	: Detector	SAPIND	: SAP carrier detect Indicator
DLY	: Delay	SCLK	: Serial Clock
DOC	: Drop Out Compensator	SCR	: Scramble
DOCSTOP	: Drop Out Control Stop	SI	: Serial control data Input
DR-FG	: Drum-Frequency Generator	SLD	: Side Lock Detector
DR-OUT	: Drum Control Out	SP	: Standard Play
DR-PG	: Drum-Phase Generator	SS	: Start Sensor
EE	: Electronic-Electronic	SSVSYNC	: Speed Search Vertical Synchronizing Signal
EMPH	: Emphasis	STRB	: Strobe
EP	: Extended Play	SU-SENS	: Supply Reel Sensor
EQ	: Equalizer	TSREC	: Tape Simulate Recording
ES	: End Sensor	TSSW	: Tape Simulator Switch
FBC	: Feed Back Clamp	TU-SENS	: Take Up Reel Sensor
FE	: Full Erase	V-REF	: Voltage Reference
FF	: Fast Forward	VBUSY	: VSET Busy
FG	: Frequency Generator	VCA	: Voltage Control Amplifier
FLDCS	: Fluorescent Tube Driver Chip Slect	VCO	: Voltage Controlled Oscillator
FM	: Frequency Modulation	VENV	: Video Envelope
FS	: Forward Search	VSETCLK	: VSET Clock
FSC	: Frequency of Color Subcarrier	VSETCS	: VSET Chip Select
G	: Ground	YNR	: Y(Luminance) Signal Noise Reduction
HASW	: Head Amplifier Switch		
HFR400	: Hi-Fast Forward/Reverse Speed Search 400		
HFRSS	: Hi-Fast Forward/Reverse Speed Search		
HSYNC	: Horizontal Synchronizing Signal		
I-LIMIT	: I(Current)-Limiter		

CHIP PARTS REPLACEMENT

CHIP PARTS REPLACEMENT

Some resistors, shorting jumpers (0Ω resistor), ceramic capacitors, transistors and diodes are chip parts.

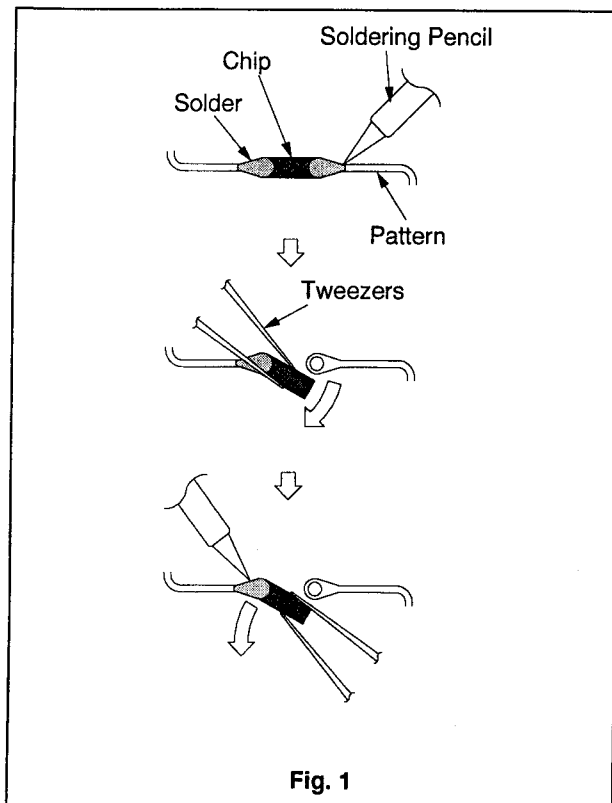
When replacing these parts, note the following cautions.

Cautions :

- Use fine tipped, well insulated soldering pencil (iron), about 30 watts, and tweezers.
- Melt the solder and remove the Chip Parts carefully not to tear off the copper foil of the printed circuit board.
- Discard removed chips ; do not reuse them.
- Do not apply heat for more than 3 seconds to new Chip Parts.
- Avoid using a rubbing stroke when soldering.
- Take care not to scratch, or damage the Chip Parts when soldering.
- Supplementary cementing is not required.

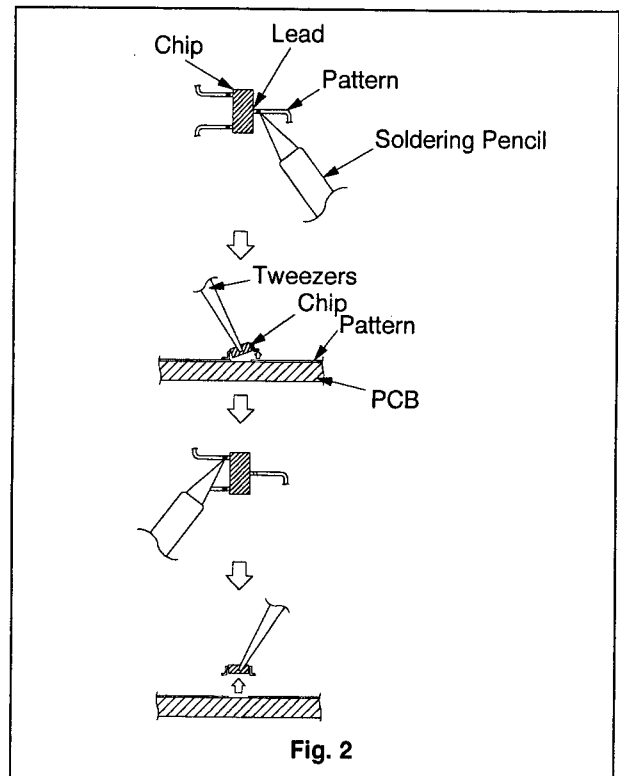
1. Removal of Chip Parts (Resistors, capacitors, etc.)

- Grasp the part with tweezers. Melt the solder at both sides alternately, remove one side of the part with a twisting motion.
- Melt the solder at the other side and remove the part.



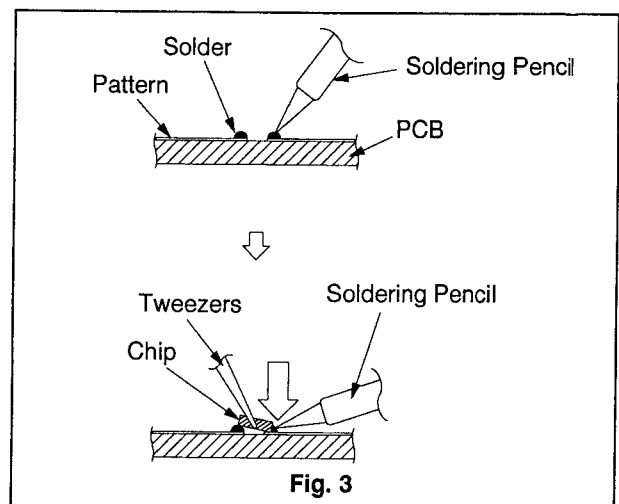
2. Removal of Chip Parts (Transistors)

- Melt the solder of one lead. Lift the side of that lead upward.
- Simultaneously melt the solder of the two remaining leads and lift the part from the PCB.



3. Replacement

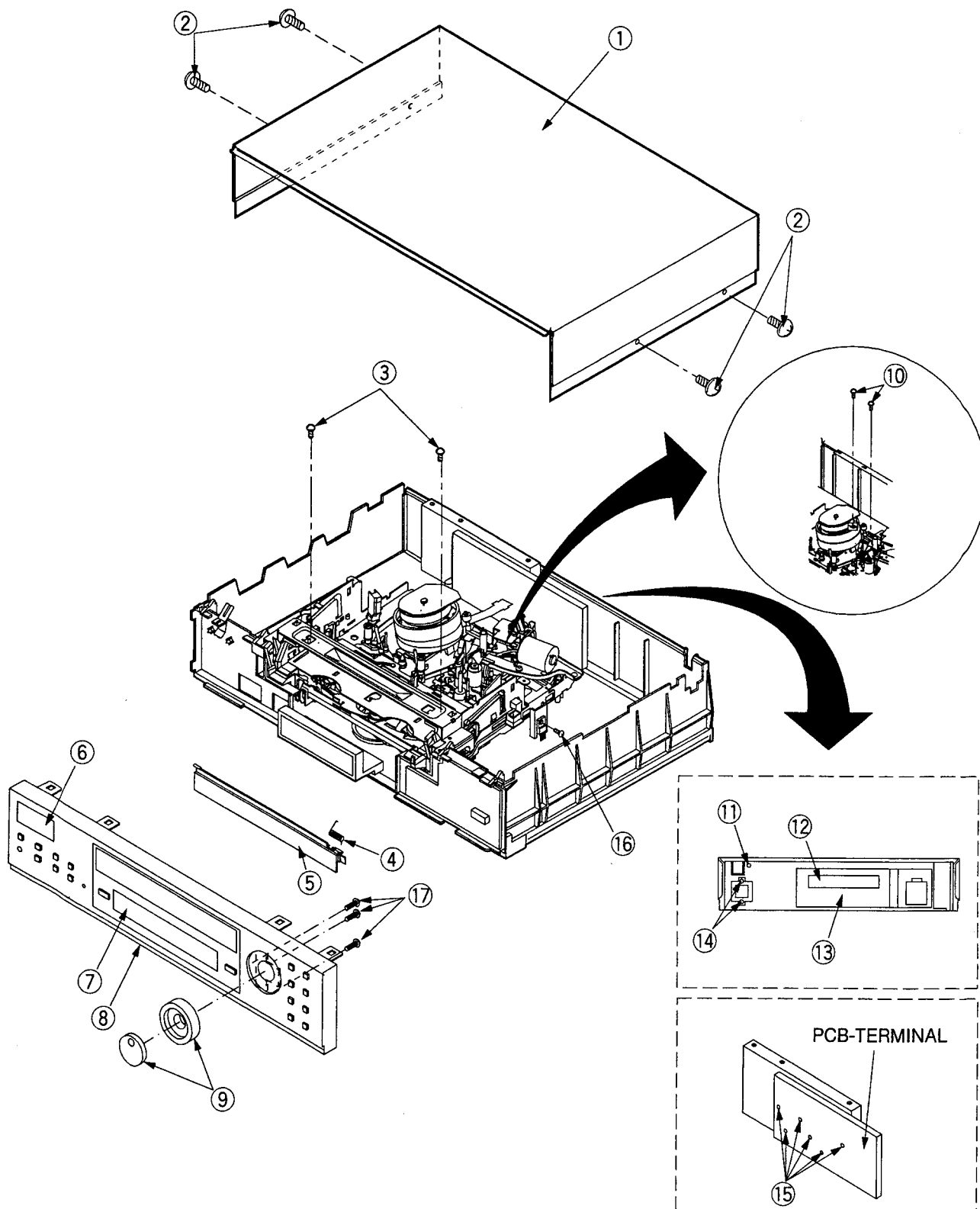
- Presolder the contact points of the circuit pattern.
- Press the part downward with tweezers and apply the soldering pencil as shown in Fig. 3.



[MEMO]

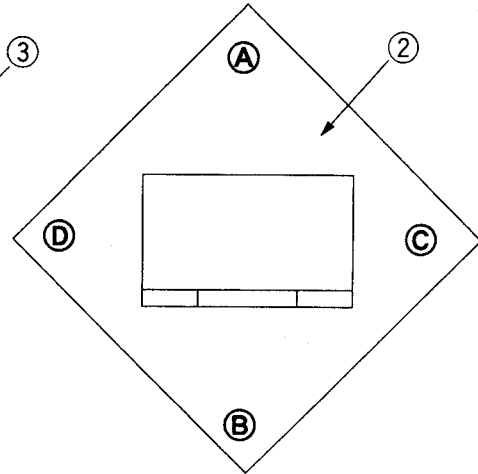
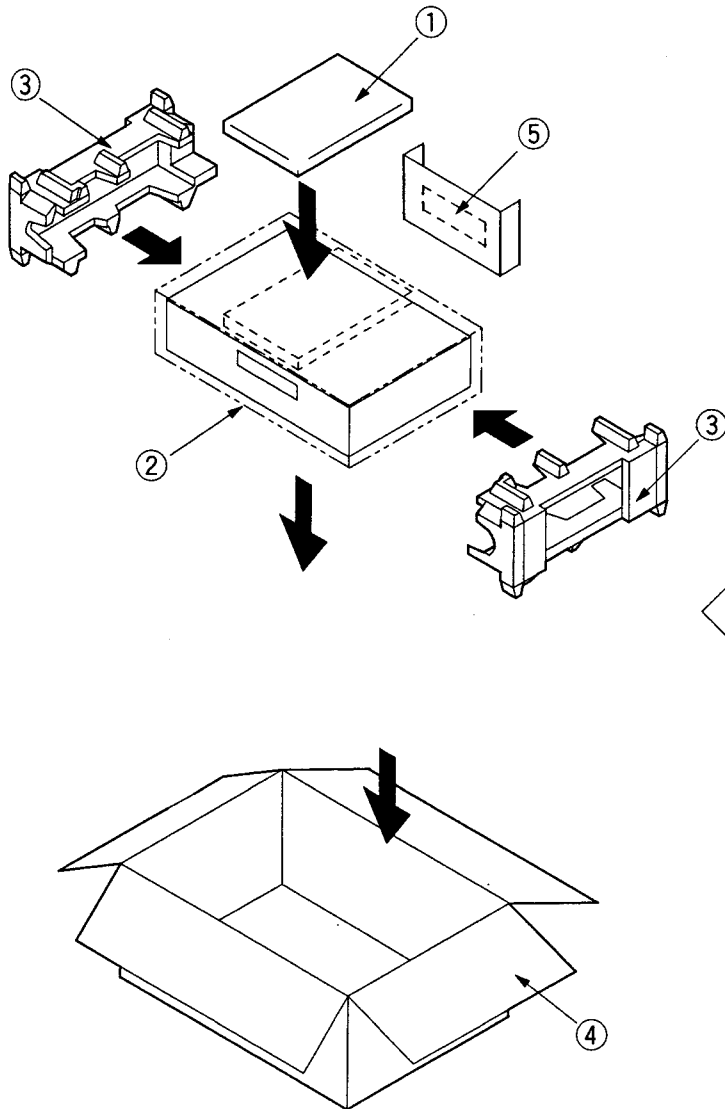
PARTS LIST

1. CABINET ASSEMBLY



ITEM NO.	PARTS NO.	PARTS NAME	DESCRIPTION
CABINET ASSEMBLY			
1	968C050O02	TOP COVER ASSY	
2	669D501O30	SCREW	3 × 10
3	669D221O40	SCREW	4 × 12 46LA005
4	572D385O10	F/L SPRING	
5	752C668O10	CASSETTE DOOR ASSY	
6	706B010O70	EMBLEM	
7	752C667O30	TIMER PLATE	
8	701B434O10	FRONT UNIT	
9	705D042O20	JOG/SHUTTLE UNIT	
10	669D229O90	SCREW	M3 × 4 46LA005
11	669D564O30	SCREW	M3 × 10
12	440B128O10	TERMINAL BOARD	(J 7A1)
13	761B362O10	TERMINAL COVER	
14	669D488O30	SCREW	3 × 12
15	669D500O30	SCREW	3 × 10
16	669D222O90	SCREW	3 × 10
17	669D531O10	SCREW	2.6 × 8

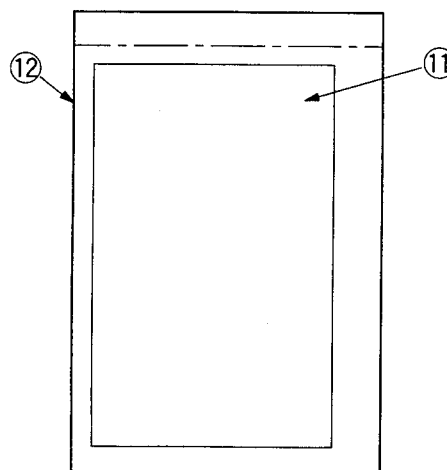
2. PACKING PARTS



How to pack product

Pack with gloss side out.
Fold the corners A, B, C, and D in order.

ACCESSORY



ITEM NO.	PARTS NO.	PARTS NAME	DESCRIPTION
PACKING PARTS			
1	-----	ACCESSORY	
2	831D190O30	PACKING SHEET	
3	803A560O10	CUSHION	
4	802B760O10	PACKING CASE	
5	242C209O80	AC POWER CORD	[E]
5	246C221O30	AC POWER CORD	[E(B)]
ACCESSORY			
11	872C197O70	INSTRUCTION BOOK	[E]
11	872C197O80	INSTRUCTION BOOK	[E(B)]
12	831D337O10	PACKING BAG	(FOR ACCESSORY)

3. ELECTRICAL PARTS

SYMBOL No.	PARTS No.	PARTS NAME	DESCRIPTION	SYMBOL No.	PARTS No.	PARTS NAME	DESCRIPTION
INTEGRATED CIRCUITS							
○ IC201	270P823010	IC	AN3364SB	Q 2D7	261P067030	CHIP TRANSISTOR	DTC124EKA
○ IC202	272P072010	IC	NJM2930L05B	Q 2D8	260P804030	CHIP TRANSISTOR	2SC3052-G
○ IC2A0	270P850010	IC	LA7195	Q 2D9	260P802020	CHIP TRANSISTOR	2SA1235-F
IC2A1	270P505010	IC	LC89977MK	Q 2E0	260P804030	CHIP TRANSISTOR	2SC3052-G
○ IC2001	275P558010	MOS IC	M35053-056FP	Q 2E1	261P067030	CHIP TRANSISTOR	DTC124EKA
IC2002	272P635010	IC	AN3916-(LF)	Q 2E2	261P067030	CHIP TRANSISTOR	DTC124EKA
○ IC2003	272P072010	IC	NJM2930L05B	Q 2E3	261P065030	CHIP TRANSISTOR	DTA124EKA
IC3A0	272P234010	IC	LA7295	Q 2001	260P802020	CHIP TRANSISTOR	2SA1235-F
IC4A0	272P235010	IC	TA7291S	Q 2002	260P804030	CHIP TRANSISTOR	2SC3052-G
IC4A1	272P204010	IC	LM2904M	Q 2004	260P802020	CHIP TRANSISTOR	2SA1235-F
○ IC501	275P345020	IC	PT6312LQ/UPD16312GB	Q 2005	260P804030	CHIP TRANSISTOR	2SC3052-G
○ IC5A0	275P554040	MOS IC	M37777MAH407GP	Q 2006	260P804030	CHIP TRANSISTOR	2SC3052-G
○ IC5A1	270P070050	IC	AT93C56-10PC/CAT93C56P	Q 2007	260P802020	CHIP TRANSISTOR	2SA1235-F
○ IC5A2	270P528040	IC	PST7027MT	Q 2008	260P804030	CHIP TRANSISTOR	2SC3052-G
IC901	267P152010	IC	STR-G6651	Q 2009	260P804030	CHIP TRANSISTOR	2SC3052-G
IC902	272P500020	IC	HA17431PA	Q 2010	260P804030	CHIP TRANSISTOR	2SC3052-G
○ IC904	270P580030	IC	SI-3120F	Q 2011	260P804030	CHIP TRANSISTOR	2SC3052-G
○ IC905	270P540050	IC	SI-3050FA	Q 2501	260P255040	TRANSISTOR	2SA950-Y
TRANSISTORS				Q 3A0	260P629060	TRANSISTOR	2SC3331-S
Q 210	260P804030	CHIP TRANSISTOR	2SC3052-G	Q 3A1	260P559030	TRANSISTOR	2SC1740S-S
Q 211	260P804030	CHIP TRANSISTOR	2SC3052-G	Q 3A2	260P559030	TRANSISTOR	2SC1740S-S
Q 212	261P067030	CHIP TRANSISTOR	DTC124EKA	Q 3A3	261P067030	CHIP TRANSISTOR	DTC124EKA
Q 213	260P804030	CHIP TRANSISTOR	2SC3052-G	Q 3A4	261P065030	CHIP TRANSISTOR	DTA124EKA
Q 214	260P804030	CHIP TRANSISTOR	2SC3052-G	Q 3A5	260P818030	CHIP TRANSISTOR	2SC2412K-S
Q 215	261P067030	CHIP TRANSISTOR	DTC124EKA	Q 4A1	260P818030	CHIP TRANSISTOR	2SC2412K-S
Q 2A0	261P065030	CHIP TRANSISTOR	DTA124EKA	Q 4A2	260P818030	CHIP TRANSISTOR	2SC2412K-S
Q 2A1	261P065030	CHIP TRANSISTOR	DTA124EKA	Q 4A3	261P066010	CHIP TRANSISTOR	2SA1037AK
Q 2A2	261P067030	CHIP TRANSISTOR	DTC124EKA	Q 5A1	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 2A3	261P067030	CHIP TRANSISTOR	DTC124EKA	Q 5A2	260P818030	CHIP TRANSISTOR	2SC2412K-S
Q 2A6	260P804030	CHIP TRANSISTOR	2SC3052-G	Q 5A3	261P066010	CHIP TRANSISTOR	2SA1037AK
Q 2A7	260P802020	CHIP TRANSISTOR	2SA1235-F	Q 5A4	261P065030	CHIP TRANSISTOR	DTA124EKA
Q 2A8	260P802020	CHIP TRANSISTOR	2SA1235-F	Q 5B3	261P066010	CHIP TRANSISTOR	2SA1037AK
Q 2A9	260P804030	CHIP TRANSISTOR	2SC3052-G	Q 5B4	261P066010	CHIP TRANSISTOR	2SA1037AK
Q 2B0	261P067030	CHIP TRANSISTOR	DTC124EKA	Q 5B5	261P066010	CHIP TRANSISTOR	2SA1037AK
Q 2B1	261P067030	CHIP TRANSISTOR	DTC124EKA	Q 5B6	260P559030	TRANSISTOR	2SC1740S-S
Q 2B2	260P804030	CHIP TRANSISTOR	2SC3052-G	Q 5B7	260P559030	TRANSISTOR	2SC1740S-S
Q 2B3	260P804030	CHIP TRANSISTOR	2SC3052-G	Q 5B8	260P559030	TRANSISTOR	2SC1740S-S
Q 2B4	260P804030	CHIP TRANSISTOR	2SC3052-G	Q 5B9	260P559030	TRANSISTOR	2SC1740S-S
Q 2B5	260P804030	CHIP TRANSISTOR	2SC3052-G	Q 5C0	260P818030	CHIP TRANSISTOR	2SC2412K-S
Q 2B7	261P065030	CHIP TRANSISTOR	DTA124EKA	Q 921	260C628010	TRANSISTOR	2SA1619A-Q
Q 2B8	260P802020	CHIP TRANSISTOR	2SA1235-F	Q 922	261P067030	CHIP TRANSISTOR	DTC124EKA
Q 2B9	260P562040	TRANSISTOR	2SA952-K	DIODES			
Q 2C0	260P804030	CHIP TRANSISTOR	2SC3052-G	D 201	264P390010	CHIP DIODE	1SS123
Q 2C1	260P804030	CHIP TRANSISTOR	2SC3052-G	D 2A0	264P808010	CHIP DIODE	DAN202K
Q 2C2	260P802020	CHIP TRANSISTOR	2SA1235-F	D 2A1	264P808010	CHIP DIODE	DAN202K
Q 2C3	260P804030	CHIP TRANSISTOR	2SC3052-G	○ D 3A0	264P568030	DIODE	1SS254
Q 2C4	260P804030	CHIP TRANSISTOR	2SC3052-G	D 3A1	264P808010	CHIP DIODE	DAN202K
Q 2C5	260P804030	CHIP TRANSISTOR	2SC3052-G	D 4A1	264P500020	DIODE	EM01Z
Q 2C6	260P804030	CHIP TRANSISTOR	2SC3052-G	○ D 4A2	262P038010	DIODE	RB721Q-40T-72
Q 2C7	260P804030	CHIP TRANSISTOR	2SC3052-G	○ D 510	264P568030	DIODE	1SS254
Q 2C8	261P065030	CHIP TRANSISTOR	DTA124EKA	○ D 511	264P568030	DIODE	1SS254
Q 2D4	260P804030	CHIP TRANSISTOR	2SC3052-G	○ D 5A1	264P568030	DIODE	1SS254
Q 2D5	260P802020	CHIP TRANSISTOR	2SA1235-F	○ D 5A2	264P568030	DIODE	1SS254
Q 2D6	260P804030	CHIP TRANSISTOR	2SC3052-G	○ D 5A3	264P568030	DIODE	1SS254
				D 5A4	264P342070	DIODE	HZ4C2

SYMBOL No.	PARTS No.	PARTS NAME	DESCRIPTION	SYMBOL No.	PARTS No.	PARTS NAME	DESCRIPTION
D 5A5	264P795O20	LIGHT EMITTING DIODE	SID1050CMMTP5	COILS			
D 5A6	264P795O20	LIGHT EMITTING DIODE	SID1050CMMTP5				
D 5A7	264P795O20	LIGHT EMITTING DIODE	SID1050CMMTP5	L 201	325C112O50	PEAKING COIL	100μH-K
D 5A8	264P795O20	LIGHT EMITTING DIODE	SID1050CMMTP5	○ L 2A0	325C472O50	PEAKING COIL	100μH-J
○ D 801	264P568O30	DIODE	1SS254	○ L 2A1	325C471O90	PEAKING COIL	33μH-J
○ D 802	264P568O30	DIODE	1SS254	L 2A2	325C167O40	PEAKING COIL	82μH-J
○ D 803	264P568O30	DIODE	1SS254	○ L 2A3	325C472O50	PEAKING COIL	100μH-J
○ D 804	264P568O30	DIODE	1SS254	L 2A4	325C166O70	PEAKING COIL	22μH-J
○ D 805	264P568O30	DIODE	1SS254	L 2A5	325C166O80	PEAKING COIL	27μH-J
○ D 806	264P568O30	DIODE	1SS254	L 2A6	325C112O50	PEAKING COIL	100μH-K
D 837	264P621O10	LIGHT EMITTING DIODE	SEL2210R TP2	○ L 2A7	325C471O70	PEAKING COIL	22μH-J
○ D 851	264P568O30	DIODE	1SS254	○ L 2A8	325C472O50	PEAKING COIL	100μH-J
○ D 852	264P568O30	DIODE	1SS254	L 2A9	325C168O00	PEAKING COIL	270μH-J
○ D 853	264P568O30	DIODE	1SS254	○ L 2B1	325C472O50	PEAKING COIL	100μH-J
○ D 854	264P568O30	DIODE	1SS254	L 2B2	321C112O50	RF COIL	100μH-K
○ D 855	264P568O30	DIODE	1SS254	○ L 2B3	325C472O50	PEAKING COIL	100μH-J
○ D 856	264P568O30	DIODE	1SS254	○ L 2B4	325C471O90	PEAKING COIL	33μH-J
○ D 857	264P568O30	DIODE	1SS254	L 2B5	325C112O50	PEAKING COIL	100μH-K
○ D 858	264P568O30	DIODE	1SS254	○ L 2B6	325C472O50	PEAKING COIL	100μH-J
○ D 859	264P568O30	DIODE	1SS254	○ L 2B7	325C472O50	PEAKING COIL	100μH-J
○ D 860	264P568O30	DIODE	1SS254	○ L 2B8	325C471O10	PEAKING COIL	6.8μH-J
D 901	264P508O40	DIODE	S1WB(A)60	○ L 2B9	325C472O20	PEAKING COIL	56μH-J
D 903	264P687O10	DIODE	AG01Z	○ L 2C0	325C473O30	PEAKING COIL	470μH-J
D 904	264P687O10	DIODE	AG01Z	○ L 2C1	325C471O30	PEAKING COIL	10μH-J
○ D 905	264P568O30	DIODE	1SS254	○ L 2C2	325C471O50	PEAKING COIL	15μH-J
D 906	264P527O30	DIODE	D1NS4/AK04	○ L 2C3	325C471O50	PEAKING COIL	15μH-J
○ D 908	264P568O30	DIODE	1SS254	○ L 2C4	325C472O50	PEAKING COIL	100μH-J
D 921	264P527O30	DIODE	D1NS4/AK04	○ L 2C6	325C473O10	PEAKING COIL	330μH-J
○ D 922	264P771O80	DIODE	MTZJ2.4A	○ L 2C9	325C472O20	PEAKING COIL	56μH-J
D 923	264P663O10	DIODE	D1NL20U	L 2D0	325C166O80	PEAKING COIL	27μH-J
○ D 924	264P781O40	DIODE	MTZJ20D	○ L 2D2	325C472O50	PEAKING COIL	100μH-J
D 925	264P657O10	DIODE	EK14V	○ L 2D4	325C471O90	PEAKING COIL	33μH-J
D 926	264P695O60	DIODE	RK36	L 2E1	325C167O40	PEAKING COIL	82μH-J
D 927	264P663O10	DIODE	D1NL20U	○ L 2E2	325C472O50	PEAKING COIL	100μH-J
○ D 928	262P037O10	DIODE	ST02D-170	L 2S1	411P011O10	FERRITE BEADS	ZBF-503S-P
FILTERS				L 2S2	411P011O10	FERRITE BEADS	ZBF-503S-P
L 5A1	409P777O30	CHIP EMI FILTER	BLM21A10	L 2S3	411P011O10	FERRITE BEADS	ZBF-503S-P
L 5A2	409P777O30	CHIP EMI FILTER	BLM21A10	L 2S6	411P011O10	FERRITE BEADS	ZBF-503S-P
L 5A3	409P777O30	CHIP EMI FILTER	BLM21A10	L 2S7	411P011O10	FERRITE BEADS	ZBF-503S-P
L 5A4	409P777O30	CHIP EMI FILTER	BLM21A10	L 2S8	325C121O30	PEAKING COIL	10μH-K
L 5A5	409P777O30	CHIP EMI FILTER	BLM21A10	○ L 2002	325C472O50	PEAKING COIL	100μH-J
L 7A2	409P777O30	CHIP EMI FILTER	BLM21A10	○ L 2003	325C472O50	PEAKING COIL	100μH-J
L 7A3	409P777O30	CHIP EMI FILTER	BLM21A10	○ L 2004	325C472O50	PEAKING COIL	100μH-J
L 7A4	409P777O30	CHIP EMI FILTER	BLM21A10	○ L 2005	325C472O50	PEAKING COIL	100μH-J
L 7A5	409P777O30	CHIP EMI FILTER	BLM21A10	L 2006	325C167O40	PEAKING COIL	82μH-J
L 7A6	409P777O30	CHIP EMI FILTER	BLM21A10	○ L 2007	325C472O50	PEAKING COIL	100μH-J
L 7A7	409P777O30	CHIP EMI FILTER	BLM21A10	L 2501	325C112O50	PEAKING COIL	100μH-K
L 7A8	409P777O30	CHIP EMI FILTER	BLM21A10	L 3A0	321C113O70	RF COIL	1000μH-K
L 7A9	409P777O30	CHIP EMI FILTER	BLM21A10	L 3A1	321C114O80	RF COIL	8200μH-J
○ L 901	351P193O40	LINE FILTER	SS11V-04350	L 501	325C112O50	PEAKING COIL	100μH-K
○ R 201	409P777O60	EMI FILTER	BLM21A121F2012	L 904	411P011O10	FERRITE BEADS	ZBF-503S-P
○ R 202	409P777O60	EMI FILTER	BLM21A121F2012	L 921	321C141O30	RF COIL	10μH-K
○ R 203	409P777O60	EMI FILTER	BLM21A121F2012	L 922	321C141O30	RF COIL	10μH-K
○ R 204	409P777O60	EMI FILTER	BLM21A121F2012	T 3A0	409P852O30	BIAS OSCILLATOR COIL	P852A10/P852A20
○ R 2S4	409P923O50	EMI FILTER	BLM21B222SD				
○ R 2S5	409P923O50	EMI FILTER	BLM21B222SD				

SYMBOL No.	PARTS No.	PARTS NAME	DESCRIPTION	SYMBOL No.	PARTS No.	PARTS NAME	DESCRIPTION
TRANSFORMERS							
○	409P848010	ROTARY TRANSFORMER	[1024E]	R 2D4	103P472010	CHIP RESISTOR	1/10W 680Ω-F
○	409P848020	ROTARY TRANSFORMER	[1024E]	R 2D6	103P472070	CHIP RESISTOR	1/10W 1.2kΩ-F
○ T 901	350P770010	POWER TRANSFORMER	FAL28RZ	R 2D7	103P472060	CHIP RESISTOR	1/10W 1.1kΩ-F
VARIABLE RESISTORS				R 2D8	103P471070	CHIP RESISTOR	1/10W 470Ω-F
R 902	109C010010	SOLID RESISTOR	1/2W 1MΩ-K	R 2D9	103P475030	CHIP RESISTOR	1/10W 15kΩ-F
○ VR2A0	127C520090	SEMIFIXED RESISTOR	1/5W B20KΩ +25%	R 2E0	103P475050	CHIP RESISTOR	1/10W 18kΩ-F
VR2A1	127C390090	SEMIFIXED RESISTOR	1/5W B20kΩ-M	R 2E1	103P401030	CHIP RESISTOR	1/10W 100Ω-J
○ VR2A2	127C520080	SEMIFIXED RESISTOR	1/5W B10KΩ +25%	R 2E3	103P472040	CHIP RESISTOR	1/10W 910Ω-F
○ VR2A5	127C520090	SEMIFIXED RESISTOR	1/5W B20KΩ +25%	R 2E4	103P472080	CHIP RESISTOR	1/10W 1.3kΩ-F
○ VR2001	127C521010	SEMIFIXED RESISTOR	1/5W B50K +25%	R 2E5	103P471090	CHIP RESISTOR	1/10W 560Ω-F
VR3A1	127C380080	SEMIFIXED RESISTOR	1/5W B10kΩ-M	R 2E6	103P401070	CHIP RESISTOR	1/10W 220Ω-J
○ VR831	129D184010	PCB VR	1/20W B5kΩ-35TM	R 2E7	103P402020	CHIP RESISTOR	1/10W 560Ω-J
RESISTORS				R 2E8	103P402030	CHIP RESISTOR	1/10W 680Ω-J
C 2J9	103P409050	CHIP RESISTOR	0.1W 0Ω (2125)	R 2E9	103P474010	CHIP RESISTOR	1/10W 4.7kΩ-F
R 212	103P402010	CHIP RESISTOR	1/10W 470Ω-J	R 2F0	103P473030	CHIP RESISTOR	1/10W 2.2kΩ-F
R 213	103P403070	CHIP RESISTOR	1/10W 10kΩ-J	R 2F1	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 214	103P404010	CHIP RESISTOR	1/10W 22kΩ-J	R 2F2	103P402080	CHIP RESISTOR	1/10W 1.8kΩ-J
R 215	103P472050	CHIP RESISTOR	1/10W 1kΩ-F	R 2F3	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 216	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	R 2F5	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 218	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	R 2F6	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 220	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	R 2F7	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J
R 221	103P472050	CHIP RESISTOR	1/10W 1kΩ-F	R 2F8	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 222	103P475030	CHIP RESISTOR	1/10W 15kΩ-F	R 2G2	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 223	103P403070	CHIP RESISTOR	1/10W 10kΩ-J	R 2G3	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 226	103P403070	CHIP RESISTOR	1/10W 10kΩ-J	R 2G4	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 2A0	103P472050	CHIP RESISTOR	1/10W 1kΩ-F	R 2G5	103P409050	CHIP RESISTOR	0.1W 0Ω (2125)
R 2A1	103P473090	CHIP RESISTOR	1/10W 3.9kΩ-F	R 2G6	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 2A2	103P473050	CHIP RESISTOR	1/10W 2.7kΩ-F	R 2G7	103P473030	CHIP RESISTOR	1/10W 2.2kΩ-F
R 2A3	103P472010	CHIP RESISTOR	1/10W 680Ω-F	R 2G8	103P472090	CHIP RESISTOR	1/10W 1.5kΩ-F
R 2A5	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J	R 2G9	103P473080	CHIP RESISTOR	1/10W 3.6kΩ-F
R 2A6	103P403070	CHIP RESISTOR	1/10W 10kΩ-J	R 2H0	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 2A7	103P406010	CHIP RESISTOR	1/10W 1MΩ-J	R 2H1	103P403040	CHIP RESISTOR	1/10W 5.6kΩ-J
R 2A8	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J	R 2H2	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2B0	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J	R 2H3	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 2B1	103P403020	CHIP RESISTOR	1/10W 3.9kΩ-J	R 2H4	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 2B2	103P402080	CHIP RESISTOR	1/10W 1.8kΩ-J	R 2H5	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 2B3	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J	R 2H6	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 2B4	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	R 2H7	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 2B5	103P472050	CHIP RESISTOR	1/10W 1kΩ-F	R 2H8	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 2B6	103P471080	CHIP RESISTOR	1/10W 510Ω-F	R 2H9	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 2B7	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J	R 2J1	103P472070	CHIP RESISTOR	1/10W 1.2kΩ-F
R 2B8	103P401030	CHIP RESISTOR	1/10W 100Ω-J	R 2J2	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 2B9	103P472050	CHIP RESISTOR	1/10W 1kΩ-F	R 2J3	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2C0	103P472010	CHIP RESISTOR	1/10W 680Ω-F	R 2J4	103P471030	CHIP RESISTOR	1/10W 330Ω-F
R 2C1	103P401080	CHIP RESISTOR	1/10W 270Ω-J	R 2J6	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2C2	103P401080	CHIP RESISTOR	1/10W 270Ω-J	R 2J7	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 2C5	103P409050	CHIP RESISTOR	0.1W 0Ω (2125)	R 2J8	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 2C7	103P472050	CHIP RESISTOR	1/10W 1kΩ-F	R 2J9	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2C8	103P472050	CHIP RESISTOR	1/10W 1kΩ-F	R 2K1	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 2D0	103P471070	CHIP RESISTOR	1/10W 470Ω-F	R 2K2	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 2D1	103P474070	CHIP RESISTOR	1/10W 8.2kΩ-F	R 2K3	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 2D2	103P471090	CHIP RESISTOR	1/10W 560Ω-F	R 2K4	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2D3	103P471030	CHIP RESISTOR	1/10W 330Ω-F	R 2K5	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
				R 2K8	103P401080	CHIP RESISTOR	1/10W 270Ω-J
				R 2K9	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
				R 2L0	103P409050	CHIP RESISTOR	0.1W 0Ω (2125)

SYMBOL No.	PARTS No.	PARTS NAME	DESCRIPTION	SYMBOL No.	PARTS No.	PARTS NAME	DESCRIPTION
R 2L1	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	R 311	103P409050	CHIP RESISTOR	0.1W 0Ω (2125)
R 2L8	103P401030	CHIP RESISTOR	1/10W 100Ω-J	R 3A0	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 2L9	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J	R 3A1	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 2M0	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	R 3A2	103P404020	CHIP RESISTOR	1/10W 27kΩ-J
R 2M1	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J	R 3A3	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 2M2	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	R 3A4	103P401060	CHIP RESISTOR	1/10W 180Ω-J
R 2M3	103P402020	CHIP RESISTOR	1/10W 560Ω-J	R 3A6	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J
R 2M4	103P472020	CHIP RESISTOR	1/10W 750Ω-F	R 3A7	103P401040	CHIP RESISTOR	1/10W 120Ω-J
R 2M6	103P402040	CHIP RESISTOR	1/10W 820Ω-J	R 3A8	103P400010	CHIP RESISTOR	1/10W 10Ω-J
R 2M7	103P403020	CHIP RESISTOR	1/10W 3.9kΩ-J	R 3B0	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 2M8	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	R 3B1	103P403040	CHIP RESISTOR	1/10W 5.6kΩ-J
R 2N0	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J	R 3B2	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2N2	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	R 3B3	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2N3	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	R 3B4	103P406010	CHIP RESISTOR	1/10W 1MΩ-J
R 2N4	103P402020	CHIP RESISTOR	1/10W 560Ω-J	R 3B6	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 2N5	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	R 3B8	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J
R 2N6	103P470070	CHIP RESISTOR	1/10W 180Ω-F	R 3D0	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 2N7	103P403020	CHIP RESISTOR	1/10W 3.9kΩ-J	R 3D2	103P404060	CHIP RESISTOR	1/10W 56kΩ-J
R 2N8	103P409050	CHIP RESISTOR	0.1W 0Ω (2125)	R 3E5	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 2R8	103P401000	CHIP RESISTOR	1/10W 56Ω-J	R 3E6	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2S2	103P409050	CHIP RESISTOR	0.1W 0Ω (2125)	R 3G0	103P401000	CHIP RESISTOR	1/10W 56Ω-J
R 2001	103P472090	CHIP RESISTOR	1/10W 1.5kΩ-F	R 3G9	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 2002	103P402020	CHIP RESISTOR	1/10W 560Ω-J	R 3H0	103P401060	CHIP RESISTOR	1/10W 180Ω-J
R 2003	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	R 3H2	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 2004	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	R 3H6	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 2005	103P409050	CHIP RESISTOR	0.1W 0Ω (2125)	R 4A5	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 2006	103P401070	CHIP RESISTOR	1/10W 220Ω-J	R 4A6	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 2007	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	R 4B0	103P403090	CHIP RESISTOR	1/10W 15kΩ-J
R 2008	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	R 4B6	103P403090	CHIP RESISTOR	1/10W 15kΩ-J
R 2009	103P402050	CHIP RESISTOR	1/10W 1kΩ-J	R 4B8	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 2013	103P403070	CHIP RESISTOR	1/10W 10kΩ-J	R 4B9	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 2014	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J	R 4C0	103P473070	CHIP RESISTOR	1/10W 3.3kΩ-F
R 2015	103P401070	CHIP RESISTOR	1/10W 220Ω-J	R 4C1	103P473030	CHIP RESISTOR	1/10W 2.2kΩ-F
R 2017	103P403050	CHIP RESISTOR	1/10W 6.8kΩ-J	R 4C2	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 2018	103P402080	CHIP RESISTOR	1/10W 1.8kΩ-J	R 4C4	103P402060	CHIP RESISTOR	1/10W 1.2kΩ-J
R 2019	103P401070	CHIP RESISTOR	1/10W 220Ω-J	R 4C5	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 2020	103P405030	CHIP RESISTOR	1/10W 220kΩ-J	R 4C6	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 2021	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J	R 4C7	103P474050	CHIP RESISTOR	1/10W 6.8kΩ-F
R 2022	103P475030	CHIP RESISTOR	1/10W 15kΩ-F	R 4C8	103P477050	CHIP RESISTOR	1/10W 120kΩ-F
R 2023	103P474090	CHIP RESISTOR	1/10W 10kΩ-F	R 4C9	103P477010	CHIP RESISTOR	1/10W 82kΩ-F
R 2024	103P401070	CHIP RESISTOR	1/10W 220Ω-J	R 4D0	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 2025	103P478010	CHIP RESISTOR	1/10W 220kΩ-F	R 4D1	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2026	103P401070	CHIP RESISTOR	1/10W 220Ω-J	R 4D2	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2027	103P402060	CHIP RESISTOR	1/10W 1.2kΩ-J	R 501	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 2029	103P403040	CHIP RESISTOR	1/10W 5.6kΩ-J	R 502	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 2030	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J	R 503	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 2031	103P403070	CHIP RESISTOR	1/10W 10kΩ-J	R 504	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 2032	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J	R 505	103P409050	CHIP RESISTOR	0.1W 0Ω (2125)
R 2033	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J	R 506	103P409050	CHIP RESISTOR	0.1W 0Ω (2125)
R 2034	103P403040	CHIP RESISTOR	1/10W 5.6kΩ-J	R 507	103P409050	CHIP RESISTOR	0.1W 0Ω (2125)
R 2035	103P403040	CHIP RESISTOR	1/10W 5.6kΩ-J	R 508	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 2036	103P404020	CHIP RESISTOR	1/10W 27kΩ-J	R 509	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 2037	103P405070	CHIP RESISTOR	1/10W 470kΩ-J	R 510	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 2501	103P409050	CHIP RESISTOR	0.1W 0Ω (2125)	R 511	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 2502	103P409050	CHIP RESISTOR	0.1W 0Ω (2125)	R 512	103P409050	CHIP RESISTOR	0.1W 0Ω (2125)
R 2503	103P409090	CHIP RESISTOR	1/10W 75Ω-J	R 521	103P409050	CHIP RESISTOR	0.1W 0Ω (2125)
R 2504	103P409090	CHIP RESISTOR	1/10W 75Ω-J	R 522	103P409050	CHIP RESISTOR	0.1W 0Ω (2125)

SYMBOL No.	PARTS No.	PARTS NAME	DESCRIPTION	SYMBOL No.	PARTS No.	PARTS NAME	DESCRIPTION
R 523	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	R 5H3	103P403O70	CHIP RESISTOR	1/10W 10kΩ-J
R 524	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	R 5H4	103P403O70	CHIP RESISTOR	1/10W 10kΩ-J
R 525	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	R 5H5	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 526	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	R 5H6	103P403O70	CHIP RESISTOR	1/10W 10kΩ-J
R 527	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	R 5H7	103P403O70	CHIP RESISTOR	1/10W 10kΩ-J
R 528	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	R 5H9	103P403O70	CHIP RESISTOR	1/10W 10kΩ-J
R 529	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	R 5J0	103P403O70	CHIP RESISTOR	1/10W 10kΩ-J
R 530	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	R 5J1	103P403O70	CHIP RESISTOR	1/10W 10kΩ-J
R 531	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	R 5J2	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 532	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	R 5J3	103P403O90	CHIP RESISTOR	1/10W 15kΩ-J
R 533	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	R 5J4	103P402O90	CHIP RESISTOR	1/10W 2.2kΩ-J
R 534	103P404O50	CHIP RESISTOR	1/10W 47kΩ-J	R 5J8	103P402O90	CHIP RESISTOR	1/10W 2.2kΩ-J
R 5A2	103P405O70	CHIP RESISTOR	1/10W 470kΩ-J	R 5K2	103P402O50	CHIP RESISTOR	1/10W 1kΩ-J
R 5A3	103P401O70	CHIP RESISTOR	1/10W 220Ω-J	O R 5K3	103P477O80	CHIP RESISTOR	1/10W 160kΩ-F
R 5A5	103P406O10	CHIP RESISTOR	1/10W 1MΩ-J	R 5K6	103P402O50	CHIP RESISTOR	1/10W 1kΩ-J
R 5A6	103P402O50	CHIP RESISTOR	1/10W 1kΩ-J	R 5L0	103P471O50	CHIP RESISTOR	1/10W 390Ω-F
R 5A7	103P406O90	CHIP METAL RESISTOR	1/10W 4.7MΩ-K	R 5L1	103P403O70	CHIP RESISTOR	1/10W 10kΩ-J
R 5A8	103P406O90	CHIP METAL RESISTOR	1/10W 4.7MΩ-K	R 5L2	103P402O50	CHIP RESISTOR	1/10W 1kΩ-J
R 5B3	103P402O90	CHIP RESISTOR	1/10W 2.2kΩ-J	R 5L3	103P402O50	CHIP RESISTOR	1/10W 1kΩ-J
R 5B5	103P402O60	CHIP RESISTOR	1/10W 1.2kΩ-J	R 5L4	103P470O70	CHIP RESISTOR	1/10W 180Ω-F
R 5B6	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	R 901	109D036O40	COMPOSITION RESISTOR	1/2W 8.2MΩ-K
R 5B7	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	R 924	103P751O30	FUSE RESISTOR	1/4W 100Ω-J
R 5B8	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	R 925	103P472O50	CHIP RESISTOR	1/10W 1kΩ-F
R 5C1	103P403O30	CHIP RESISTOR	1/10W 4.7kΩ-J	R 926	103P470O90	CHIP RESISTOR	1/10W 220Ω-F
R 5C2	103P404O90	CHIP RESISTOR	1/10W 100kΩ-J	R 927	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5C3	103P402O50	CHIP RESISTOR	1/10W 1kΩ-J	R 928	103P470O10	CHIP RESISTOR	1/10W 100Ω-F
R 5C4	103P401O70	CHIP RESISTOR	1/10W 220Ω-J	R 929	103P472O70	CHIP RESISTOR	1/10W 1.2kΩ-F
R 5C5	103P402O10	CHIP RESISTOR	1/10W 470Ω-J	R 930	103P472O70	CHIP RESISTOR	1/10W 1.2kΩ-F
R 5C6	103P404O90	CHIP RESISTOR	1/10W 100kΩ-J	R 931	103P400O50	CHIP RESISTOR	1/10W 22Ω-J
R 5C7	103P403O00	CHIP RESISTOR	1/10W 2.7kΩ-J	R 932	103P472O90	CHIP RESISTOR	1/10W 1.5kΩ-F
R 5C8	103P403O70	CHIP RESISTOR	1/10W 10kΩ-J	R 936	103P401O90	CHIP RESISTOR	1/10W 330Ω-J
R 5D0	103P405O30	CHIP RESISTOR	1/10W 220kΩ-J	RJ 01	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5D6	103P405O00	CHIP RESISTOR	1/10W 120kΩ-J	RJ 02	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5D7	103P405O00	CHIP RESISTOR	1/10W 120kΩ-J	RJ 04	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5E4	103P401O50	CHIP RESISTOR	1/10W 150Ω-J	RJ 05	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5E6	103P404O00	CHIP RESISTOR	1/10W 18kΩ-J	RJ 06	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5F0	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	RJ 07	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5F1	103P471O50	CHIP RESISTOR	1/10W 390Ω-F	RJ 08	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5F2	103P470O70	CHIP RESISTOR	1/10W 180Ω-F	RJ 09	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5F3	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	RJ 10	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5F7	103P404O90	CHIP RESISTOR	1/10W 100kΩ-J	RJ 11	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5F8	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	RJ 12	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5F9	103P404O10	CHIP RESISTOR	1/10W 22kΩ-J	RJ 13	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5G0	103P403O70	CHIP RESISTOR	1/10W 10kΩ-J	RJ 14	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5G1	103P404O10	CHIP RESISTOR	1/10W 22kΩ-J	RJ 15	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5G2	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	RJ 16	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5G3	103P404O10	CHIP RESISTOR	1/10W 22kΩ-J	RJ 17	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5G4	103P403O70	CHIP RESISTOR	1/10W 10kΩ-J	RJ 18	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5G5	103P404O10	CHIP RESISTOR	1/10W 22kΩ-J	RJ 20	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5G6	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	RJ 21	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5G7	103P404O10	CHIP RESISTOR	1/10W 22kΩ-J	RJ 22	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5G8	103P403O70	CHIP RESISTOR	1/10W 10kΩ-J	RJ 23	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5G9	103P404O10	CHIP RESISTOR	1/10W 22kΩ-J	RJ 24	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5H0	103P403O70	CHIP RESISTOR	1/10W 10kΩ-J	RJ 29	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5H1	103P403O70	CHIP RESISTOR	1/10W 10kΩ-J	RJ 30	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
R 5H2	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	RJ 31	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)
				RJ 32	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)

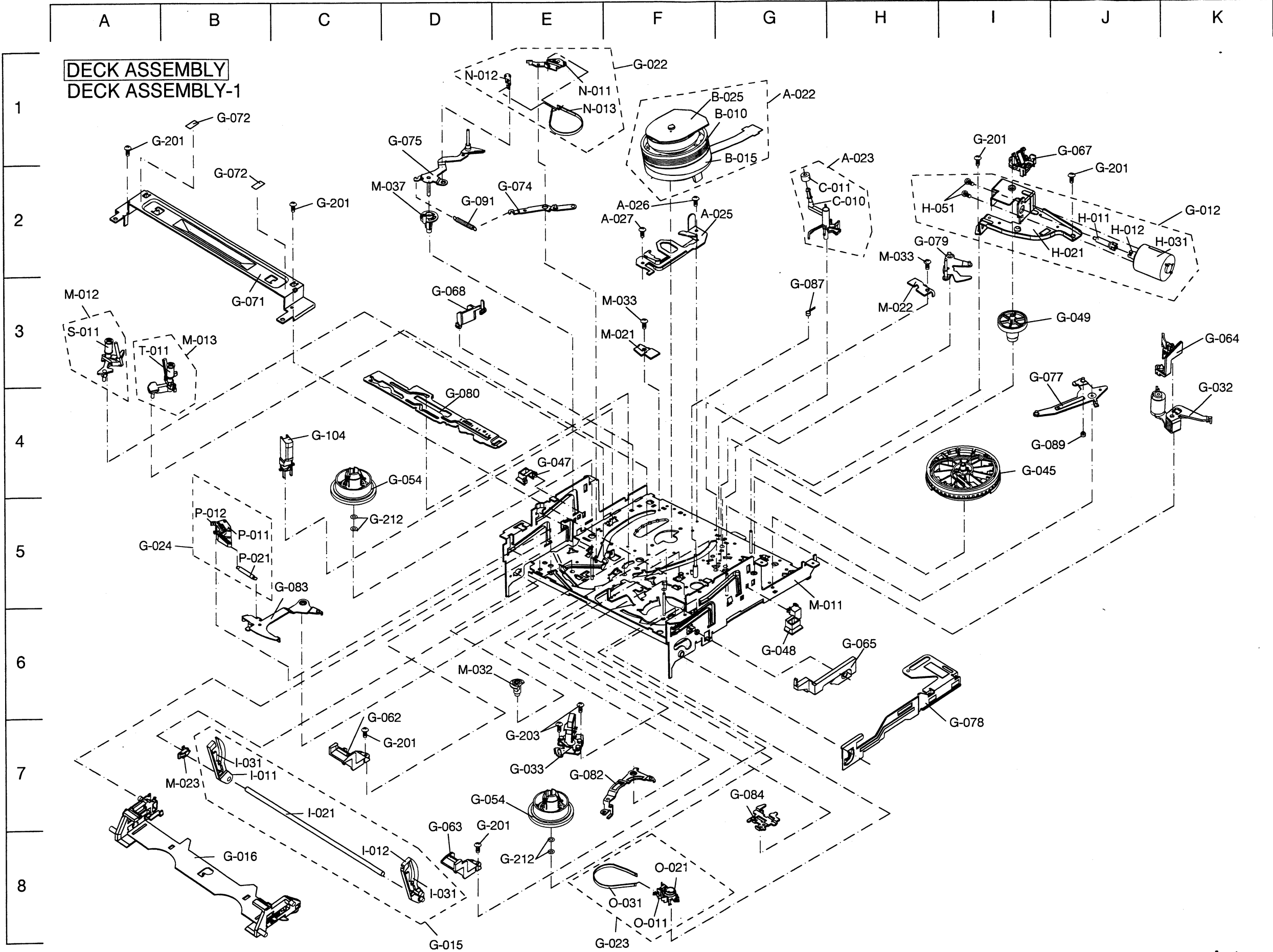
SYMBOL No.	PARTS No.	PARTS NAME	DESCRIPTION	SYMBOL No.	PARTS No.	PARTS NAME	DESCRIPTION
RJ 33	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2A5	154P321O60	CHIP CAPACITOR	SL50V 15pF-J
RJ 34	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2A7	154P320O70	CHIP CAPACITOR	SL50V 5pF-C
RJ 35	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2A8	154P323O40	CHIP CAPACITOR	SL50V 82pF-J
RJ 36	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2B0	141P133O80	CHIP CAPACITOR	F50V 0.01μF-Z
RJ 37	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2B1	141P137O40	CHIP CAPACITOR	B25V 0.022μF-K
RJ 38	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2B3	141P137O80	CHIP CAPACITOR	B25V 0.047μF-K
RJ 39	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2B5	141P133O90	CHIP CAPACITOR	F50V 0.022μF-Z
RJ 40	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2B7	141P133O80	CHIP CAPACITOR	F50V 0.01μF-Z
RJ 41	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2B8	154P321O60	CHIP CAPACITOR	SL50V 15pF-J
RJ 42	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2B9	154P323O20	CHIP CAPACITOR	SL50V 68pF-J
RJ 43	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2C0	154P322O00	CHIP CAPACITOR	SL50V 22pF-J
RJ 44	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2C1	154P322O80	CHIP CAPACITOR	SL50V 47pF-J
RJ 45	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2C3	141P133O80	CHIP CAPACITOR	F50V 0.01μF-Z
RJ 46	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2C4	154P332O30	CHIP CAPACITOR	CH50V 33pF-J
RJ 47	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2C5	154P332O10	CHIP CAPACITOR	CH50V 27pF-J
RJ 48	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2C6	141P133O80	CHIP CAPACITOR	F50V 0.01μF-Z
RJ 49	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2C8	141P132O00	CHIP CAPACITOR	B50V 8200pF-K
RJ 50	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2C9	141P132O00	CHIP CAPACITOR	B50V 8200pF-K
RJ 51	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2D3	141P133O80	CHIP CAPACITOR	F50V 0.01μF-Z
RJ 52	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2D5	141P135O80	CHIP CAPACITOR	F25V 0.1μF-Z
RJ 53	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2D8	141P135O80	CHIP CAPACITOR	F25V 0.1μF-Z
RJ 54	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2D9	141P132O10	CHIP CAPACITOR	B50V 0.01μF-K
RJ 55	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2E0	154P321O60	CHIP CAPACITOR	SL50V 15pF-J
RJ 56	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2E1	154P324O40	CHIP CAPACITOR	SL50V 220pF-J
RJ 57	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2E2	154P322O20	CHIP CAPACITOR	SL50V 27pF-J
RJ 58	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2E3	141P132O10	CHIP CAPACITOR	B50V 0.01μF-K
RJ 59	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2E4	154P324O60	CHIP CAPACITOR	SL50V 270pF-J
RJ 60	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2E6	154P324O00	CHIP CAPACITOR	SL50V 150pF-J
RJ 61	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2E7	154P324O20	CHIP CAPACITOR	SL50V 180pF-J
RJ 62	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2E8	141P132O10	CHIP CAPACITOR	B50V 0.01μF-K
RJ 63	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2E9	154P322O20	CHIP CAPACITOR	SL50V 27pF-J
RJ 64	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2F0	141P133O80	CHIP CAPACITOR	F50V 0.01μF-Z
RJ 65	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2F4	141P137O40	CHIP CAPACITOR	B25V 0.022μF-K
RJ 66	103P409O50	CHIP RESISTOR	0.1W 0Ω (2125)	C 2F5	141P137O80	CHIP CAPACITOR	B25V 0.047μF-K
CAPACITORS AND TRIMMERS				C 2F6	141P132O10	CHIP CAPACITOR	B50V 0.01μF-K
C 201	141P139O90	CHIP CAPACITOR	B16V 0.47μF-K	C 2F8	141P133O80	CHIP CAPACITOR	F50V 0.01μF-Z
C 204	141P139O90	CHIP CAPACITOR	B16V 0.47μF-K	C 2F9	141P133O80	CHIP CAPACITOR	F50V 0.01μF-Z
C 205	141P139O90	CHIP CAPACITOR	B16V 0.47μF-K	C 2G1	141P133O80	CHIP CAPACITOR	F50V 0.01μF-Z
C 208	141P139O90	CHIP CAPACITOR	B16V 0.47μF-K	C 2G3	141P133O80	CHIP CAPACITOR	F50V 0.01μF-Z
C 211	141P133O80	CHIP CAPACITOR	F50V 0.01μF-Z	C 2G5	141P133O80	CHIP CAPACITOR	F50V 0.01μF-Z
C 212	154P326O00	CHIP CAPACITOR	SL50V 1000pF-J	C 2G9	141P133O80	CHIP CAPACITOR	F50V 0.01μF-Z
C 213	141P139O30	CHIP CAPACITOR	B25V 0.1μF-K	C 2H0	154P321O00	CHIP CAPACITOR	SL50V 8pF-C
C 214	141P132O10	CHIP CAPACITOR	B50V 0.01μF-K	C 2H3	141P133O80	CHIP CAPACITOR	F50V 0.01μF-Z
C 215	141P132O10	CHIP CAPACITOR	B50V 0.01μF-K	C 2H4	141P133O80	CHIP CAPACITOR	F50V 0.01μF-Z
C 216	141P132O10	CHIP CAPACITOR	B50V 0.01μF-K	C 2H5	154P322O20	CHIP CAPACITOR	SL50V 27pF-J
C 217	141P139O30	CHIP CAPACITOR	B25V 0.1μF-K	C 2H7	154P322O40	CHIP CAPACITOR	SL50V 33pF-J
C 218	141P135O80	CHIP CAPACITOR	F25V 0.1μF-Z	C 2H8	154P323O20	CHIP CAPACITOR	SL50V 68pF-J
C 219	141P135O80	CHIP CAPACITOR	F25V 0.1μF-Z	C 2H9	154P322O40	CHIP CAPACITOR	SL50V 33pF-J
C 222	141P139O30	CHIP CAPACITOR	B25V 0.1μF-K	C 2J0	154P323O00	CHIP CAPACITOR	SL50V 56pF-J
C 223	141P132O10	CHIP CAPACITOR	B50V 0.01μF-K	C 2J1	154P322O80	CHIP CAPACITOR	SL50V 47pF-J
C 224	141P133O80	CHIP CAPACITOR	F50V 0.01μF-Z	C 2J2	141P132O00	CHIP CAPACITOR	B50V 8200pF-K
C 2A0	154P322O60	CHIP CAPACITOR	SL50V 39pF-J	C 2J4	141P133O80	CHIP CAPACITOR	F50V 0.01μF-Z
C 2A1	154P323O00	CHIP CAPACITOR	SL50V 56pF-J	C 2J6	154P336O80	CHIP CAPACITOR	CH50/25V 820pF-J
C 2A2	154P324O40	CHIP CAPACITOR	SL50V 220pF-J	C 2J7	154P324O00	CHIP CAPACITOR	SL50V 150pF-J
C 2A4	154P325O00	CHIP CAPACITOR	SL50V 390pF-J	C 2J8	154P324O00	CHIP CAPACITOR	SL50V 150pF-J
				C 2K0	141P133O80	CHIP CAPACITOR	F50V 0.01μF-Z
				C 2K9	141P133O80	CHIP CAPACITOR	F50V 0.01μF-Z

SYMBOL No.	PARTS No.	PARTS NAME	DESCRIPTION	SYMBOL No.	PARTS No.	PARTS NAME	DESCRIPTION
C 2L0	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z	C 4A9	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 2L1	154P322020	CHIP CAPACITOR	SL50V 27pF-J	C 4B1	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 2L2	154P321060	CHIP CAPACITOR	SL50V 15pF-J	C 4B3	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 2L4	154P322000	CHIP CAPACITOR	SL50V 22pF-J	C 4C1	141P139000	CHIP CAPACITOR	B25V 0.056μF-K
C 2L6	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z	C 4C2	141P139000	CHIP CAPACITOR	B25V 0.056μF-K
C 2L9	154P322060	CHIP CAPACITOR	SL50V 39pF-J	C 4C3	141P131070	CHIP CAPACITOR	B50V 4700pF-K
C 2M1	154P323000	CHIP CAPACITOR	SL50V 56pF-J	C 4C4	141P131070	CHIP CAPACITOR	B50V 4700pF-K
C 2Q4	141P132010	CHIP CAPACITOR	B50V 0.01μF-K	C 501	154P322080	CHIP CAPACITOR	SL50V 47pF-J
C 2S1	154P322000	CHIP CAPACITOR	SL50V 22pF-J	C 503	141P133090	CHIP CAPACITOR	F50V 0.022μF-Z
C 2S2	141P132010	CHIP CAPACITOR	B50V 0.01μF-K	C 505	141P133090	CHIP CAPACITOR	F50V 0.022μF-Z
C 2S3	154P322000	CHIP CAPACITOR	SL50V 22pF-J	C 507	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 2001	154P325020	CHIP CAPACITOR	SL50V 470pF-J	C 508	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 2002	141P139070	CHIP CAPACITOR	B16V 0.22μF-K	C 509	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 2003	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z	C 510	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 2005	154P322060	CHIP CAPACITOR	SL50V 39pF-J	C 5A1	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 2006	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z	C 5A4	141P133090	CHIP CAPACITOR	F50V 0.022μF-Z
C 2007	154P322080	CHIP CAPACITOR	SL50V 47pF-J	C 5A5	154P331090	CHIP CAPACITOR	CH50V 22pF-J
C 2008	141P132010	CHIP CAPACITOR	B50V 0.01μF-K	C 5A6	154P331050	CHIP CAPACITOR	CH50V 15pF-J
C 2011	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z	C 5A7	154P331090	CHIP CAPACITOR	CH50V 22pF-J
C 2013	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z	C 5A8	154P331070	CHIP CAPACITOR	CH50V 18pF-J
C 2015	154P325020	CHIP CAPACITOR	SL50V 470pF-J	C 5A9	141P133090	CHIP CAPACITOR	F50V 0.022μF-Z
C 2016	141P131050	CHIP CAPACITOR	B50V 3300pF-K	C 5B0	141P131090	CHIP CAPACITOR	B50V 6800pF-K
C 2018	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z	C 5B1	141P131090	CHIP CAPACITOR	B50V 6800pF-K
C 2023	154P322000	CHIP CAPACITOR	SL50V 22pF-J	C 5B2	141P131090	CHIP CAPACITOR	B50V 6800pF-K
C 2024	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z	C 5B3	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 2029	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z	C 5B4	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 2031	141P139030	CHIP CAPACITOR	B25V 0.1μF-K	C 5B5	141P133090	CHIP CAPACITOR	F50V 0.022μF-Z
C 2036	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z	C 5B6	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 2040	141P132010	CHIP CAPACITOR	B50V 0.01μF-K	C 5B9	141P133090	CHIP CAPACITOR	F50V 0.022μF-Z
C 2041	141P132010	CHIP CAPACITOR	B50V 0.01μF-K	C 5C0	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
○ C 2501	181P210060	ELECTROLYTIC CAPACITOR	04W 6.3V 330μF-M	C 5C1	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
○ C 2502	181P210060	ELECTROLYTIC CAPACITOR	04W 6.3V 330μF-M	C 5C2	141P137080	CHIP CAPACITOR	B25V 0.047μF-K
○ C 2503	181P212070	ELECTROLYTIC CAPACITOR	04W 16V 100μF-M	C 5C3	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
○ C 302	154P337060	CHIP CAPACITOR	CH50V 3900pF-J	C 5C4	141P137080	CHIP CAPACITOR	B25V 0.047μF-K
○ C 303	181P216050	ELECTROLYTIC CAPACITOR	50V 10μF-M	C 5C5	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
○ C 3A0	181P219080	ELECTROLYTIC CAPACITOR	50V 2.2μF-M	C 5C6	141P137080	CHIP CAPACITOR	B25V 0.047μF-K
C 3A1	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z	C 5C9	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 3A2	141P130090	CHIP CAPACITOR	B50V 1000pF-K	C 5D0	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 3A3	141P130060	CHIP CAPACITOR	B50V 560pF-K	C 5D3	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 3A5	181P213080	ELECTROLYTIC CAPACITOR	25V 22μF-M	C 5D5	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 3A6	181P214000	ELECTROLYTIC CAPACITOR	25V 47μF-M	C 5D6	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 3A8	141P131030	CHIP CAPACITOR	B50V 2200pF-K	C 901	189P183040	C-M-P-AC	125V/250V0.1μF-M
○ C 3A9	181P219070	ELECTROLYTIC CAPACITOR	50V 1μF-M	C 902	189P183040	C-M-P-AC	125V/250V0.1μF-M
○ C 3B4	181P212060	ELECTROLYTIC CAPACITOR	04W 16V 47μF-M	C 907	189P188030	AC CERAMIC CAPACITOR	AC250V E4700pF-M
○ C 3B7	181P219070	ELECTROLYTIC CAPACITOR	50V 1μF-M	C 915	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
○ C 3B8	181P213080	ELECTROLYTIC CAPACITOR	25V 22μF-M	○ C 921	181P551020	ELECTROLYTIC CAPACITOR	04W 10V 100μF-M
○ C 3D1	181P212050	ELECTROLYTIC CAPACITOR	16V 33μF-M	C 922	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 3D2	141P130060	CHIP CAPACITOR	B50V 560pF-K	C 925	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 3D3	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z	○ C 928	181P353060	ELECTROLYTIC CAPACITOR	04W 25V 330μF-M
C 3D4	141P139010	CHIP CAPACITOR	B25V 0.068μF-K	○ C 930	181P351070	ELECTROLYTIC CAPACITOR	10V 470μF-M
C 3D5	141P137030	CHIP CAPACITOR	B50V 0.018μF-K	C 931	181P351040	ELECTROLYTIC CAPACITOR	CE04W 10V 100μF-M
○ C 3E6	181P212060	ELECTROLYTIC CAPACITOR	04W 16V 47μF-M	C 932	181P352040	ELECTROLYTIC CAPACITOR	04W 16V 100μF-M
C 3E7	141P130010	CHIP CAPACITOR	B50V 220pF-K	C 933	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 4A1	141P130060	CHIP CAPACITOR	B50V 560pF-K	SWITCHES			
C 4A2	141P130090	CHIP CAPACITOR	B50V 1000pF-K	○ S 7A1	432P203030	KEY BOARD SWITCH	RESET
C 4A3	141P130090	CHIP CAPACITOR	B50V 1000pF-K				
C 4A7	141P139030	CHIP CAPACITOR	B25V 0.1μF-K				

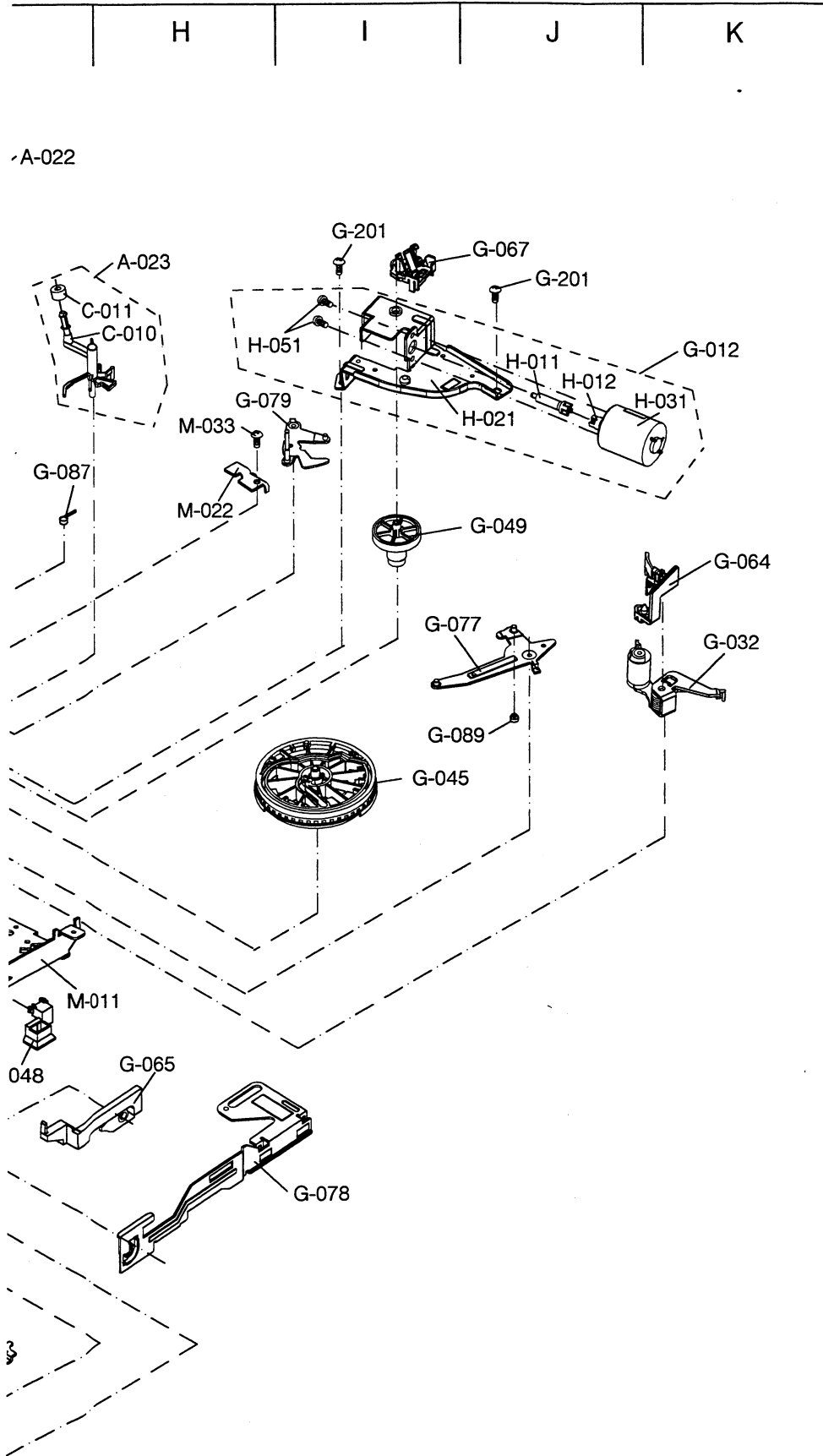
SYMBOL No.	PARTS No.	PARTS NAME	DESCRIPTION	SYMBOL No.	PARTS No.	PARTS NAME	DESCRIPTION
○ S 831	432P203030	KEY BOARD SWITCH	E-TRACING(+)	○	928D491002	TERMINAL PCB ASSY	
○ S 832	432P203030	KEY BOARD SWITCH	E-TRACING(-)				
○ S 833	432P203030	KEY BOARD SWITCH	E-MODE(+)				
○ S 834	432P203030	KEY BOARD SWITCH	E-MODE(-)				
○ S 835	432P203030	KEY BOARD SWITCH	E-POWER				
○ S 836	432P203030	KEY BOARD SWITCH	E-EJECT				
○ S 837	432P203030	KEY BOARD SWITCH	E-POSITION/STILL ADJ(+)				
○ S 838	432P203030	KEY BOARD SWITCH	E-POSITION/STILL ADJ(-)				
○ S 839	432P203030	KEY BOARD SWITCH	E-LOCK				
○ S 881	432P203030	KEY BOARD SWITCH	E-REC				
○ S 882	432P203030	KEY BOARD SWITCH	E-COUNTER RESET				
○ S 883	432P203030	KEY BOARD SWITCH	E-SKIP/INDEX MEMRY				
○ S 884	432P203030	KEY BOARD SWITCH	E-MENU				
○ S 885	432P203030	KEY BOARD SWITCH	E-TIMER REC				
○ S 886	432P203030	KEY BOARD SWITCH	E-PAUSE				
○ S 887	432P203030	KEY BOARD SWITCH	E-STOP				
○ S 888	432P203030	KEY BOARD SWITCH	E-PB				
S 8A1	439P041010	JOG SWITCH	JOG/SHUTTLE				
MISCELLANEOUS							
○ JE KA	243C155030	CARD LEAD WIRE	9P L=120(MA-OA)				
	243C193050	CARD LEAD WIRE	7PIN L=160(MA-DA)				
	243C193030	CARD LEAD WIRE	7PIN L=120(MD-DD)				
	243C157020	CARD LEAD WIRE	13P L=100(MN-JN)				
	243C159020	CARD LEAD WIRE	17P L=100(MS-JS)				
○ B 5A1	286P014010	BUZZER	PKM22EPP-4005				
○ F 901	283D107050	FUSE	T2AH 250V				
○ J 3A1	451C194020	RCA PIN JACK	2P				
J 7A2	451C111010	JACK					
J 901	451C210010	POWER JACK	3P				[1024E(B)]
J 902	451C209010	POWER JACK	2P				[1024E]
PC901	268P079010	PHOTO COUPLER	PC123FY				
PC902	268P079010	PHOTO COUPLER	PC123FY				
○ Q 5A5	268P092010	PHOTO TRANSISTOR	PT492FK1				
○ Q 5A6	268P092010	PHOTO TRANSISTOR	PT492FK1				
Q 5A7	268P076020	PHOTO TRANSISTOR	SPS-1119C-BC-T				
Q 5A8	268P076020	PHOTO TRANSISTOR	SPS-1119C-BC-T				
Q 5A9	268P076020	PHOTO TRANSISTOR	SPS-1119C-BC-T				
Q 5B0	268P076020	PHOTO TRANSISTOR	SPS-1119C-BC-T				
Q 5B1	268P076020	PHOTO TRANSISTOR	SPS-1119C-BC-T				
Q 5B2	268P076020	PHOTO TRANSISTOR	SPS-1119C-BC-T				
○ R 921	299P193010	PROTECTOR	FUSE				
RV901	299P220020	SURGE SUPPRESSOR	DSS-302M				[1024E(B)]
SA901	299P198010	SURGE ABSORBER	ERZV07D471				
SA902	265P100040	VARISTOR	ERZV10D471CS				[1024E(B)]
○ V 5A0	253D045030	FLUOR DISPLAY TUBE					
X 2A0	285P083010	CRYSTAL RESONATOR	4.43362MHz				
○ X 5A1	285P368040	CRYSTAL RESONATOR	12.000MHz				
○ X 5A2	285P054040	CRYSTAL RESONATOR	32.768kHz				
PRINTED CIRCUIT BOARD ASSY'S							
○	925B123003	MAIN PCB ASSY					[1024E]
○	925B123016	MAIN PCB ASSY					[1024E(B)]
○	928D494002	OPE PCB ASSY	LEFT				
○	928D495002	OPE PCB ASSY	RIGHT				
○	928D492002	POWER SUB PCB ASSY					[1024E]
○	928D493001	POWER SUB PCB ASSY	3P				[1024E(B)]

[MEMO]

* Settled Service Parts



ITEM	PARTS NO.	*	A
A-022	948B392O07		G
A-023	927D027O01		F
A-025	592B552O10		F
A-026	669D556O10		F
B-010	925B027O14		G
B-015	927B961O05		G
B-025	288P158O30		G
C-010	641B903O10		G
C-011	554D104O20		F
G-012	928D472O11		K
G-015	948D088O03		E
G-016	948B406O02		F
G-022	948D095O02		F
G-023	948D096O01		F
G-024	948D097O02		A
G-032	594C260O20		K
G-033	460C007O10		E
G-045	621C769O20		I
G-047	621C783O10		E
G-048	621C784O10		G
G-049	621C794O10		J
G-054	640C181O20		E
G-062	621C789O10		C
G-063	621C790O10		E
G-064	641B902O10		K
G-065	641B908O10		F
G-067	621C804O10		J
G-068	621C805O10		E
G-071	592B549O10		E
G-072	640D852O20		E
G-074	594C217O10		E
G-075	594C218O10		E
G-077	594C222O10		I
G-078	594C223O10		I
G-079	594C224O10		F
G-080	594C225O30		E
G-082	594C229O10		E
G-083	594C230O10		C
G-084	597D866O10		G
G-087	622D820O10		G
G-089	622D829O10		I
G-091	572D974O10		E
G-104	460D018O10		C
G-201	669D224O90		A
G-203	669D476O30		E
G-212	552C017O30		C
H-011	621C758O10		J
H-012	622D788O10		J
H-021	594C216O10		J
H-031	288P090O10		J
H-051	669D173O80		F
I-011	641B913O10		E
I-012	641B911O20		C



* Settled Service Parts

ITEM	PARTS NO.	*	ADDRESS	PARTS NAME	DESCRIPTION	Qt.
A-022	948B392O07		G-1	DRUM ASSY		1
A-023	927D027O01		H-2	CLEANER ASSY		1
A-025	592B552O10		F-2	DRUM CLAMPER		1
A-026	669D556O10		F-2	SCREW	2.6 x 4	1
B-010	925B027O14		G-1	UPPER DRUM ASSY		1
B-015	927B961O05		G-1	LOWER DRUM ASSY		1
B-025	288P158O30		G-1	DRUM MOTOR		1
C-010	641B903O10		G-2	CLEANING ARM		1
C-011	554D104O20		H-2	FELT RING		1
G-012	928D472O11		K-2	LOADING MOTOR ASSY		1
G-015	948D088O03		D-8	F/L ARM ASSY		1
G-016	948B406O02		B-8	F/L BOTTOM ASSY		1
G-022	948D095O02		F-1	TENSION BELT ASSY		1
G-023	948D096O01		F-8	BRAKE ASSY (TU)		1
G-024	948D097O02		A-5	CHARGE ASSY		1
G-032	594C260O20		K-4	PINCH UNIT		1
G-033	460C007O10		E-7	A/C HEAD UNIT		1
G-045	621C769O20		I-4	MAIN CAM		1
G-047	621C783O10		E-4	SENSOR COVER (SP)	SUPPLY	1
G-048	621C784O10		G-6	SENSOR COVER (TU)	TAKE UP	1
G-049	621C794O10		J-3	WROM WHEEL		1
G-054	640C181O20		D-4	REEL DISK		2
G-062	621C789O10		C-6	INSERT GUIDE (SP)	SUPPLY	1
G-063	621C790O10		D-7	INSERT GUIDE (TU)	TAKE UP	1
G-064	641B902O10		K-3	PINCH ARM CAP		1
G-065	641B908O10		H-6	DOOR ARM		1
G-067	621C804O10		J-1	FC HOLDER		1
G-068	621C805O10		D-3	GUIDE ARM (SP)		1
G-071	592B549O10		B-3	STAY PLATE		1
G-072	640D852O20		B-1	B-2 SPACER		2
G-074	594C217O10		E-2	TENSION LEVER		1
G-075	594C218O10		D-1	TENSION ARM		1
G-077	594C222O10		I-3	BRAKE LEVER		1
G-078	594C223O10		I-6	F/L PLATE		1
G-079	594C224O10		H-2	GUIDE ARM (TU)		1
G-080	594C225O30		D-4	BRAKE CAM PLATE		1
G-082	594C229O10		E-7	SHIFT LEVER		1
G-083	594C230O10		C-5	SWING LEVER		1
G-084	597D866O10		G-7	L/D LOCK LEVER		1
G-087	622D820O10		G-3	GUIDE PIN COVER		1
G-089	622D829O10		I-4	LB PIN		1
G-091	572D974O10		D-2	TENSION SPRING		1
G-104	460D018O10		C-4	F/E HEAD		1
G-201	669D224O90		A-1	SCREW	2.6x5	6
G-203	669D476O30		D-7	SCREW	2.6x6	2
G-212	552C017O30		E-7	SCREW	2.5x6x0.13	4
H-011	621C758O10		J-2	THRUST WASHER		1
H-012	622D788O10		J-2	LOADING WORM		1
H-021	594C216O10		J-2	COUPLING WORM		1
H-031	288P090O10		J-2	MOTOR HOLDER		1
H-051	669D173O80		H-2	LOADING MOTOR		1
I-011	641B913O10		B-7	SCREW	M3x0.5-4	2
I-012	641B911O20		C-8	ARM (SP)		1
				ARM (TU)		1

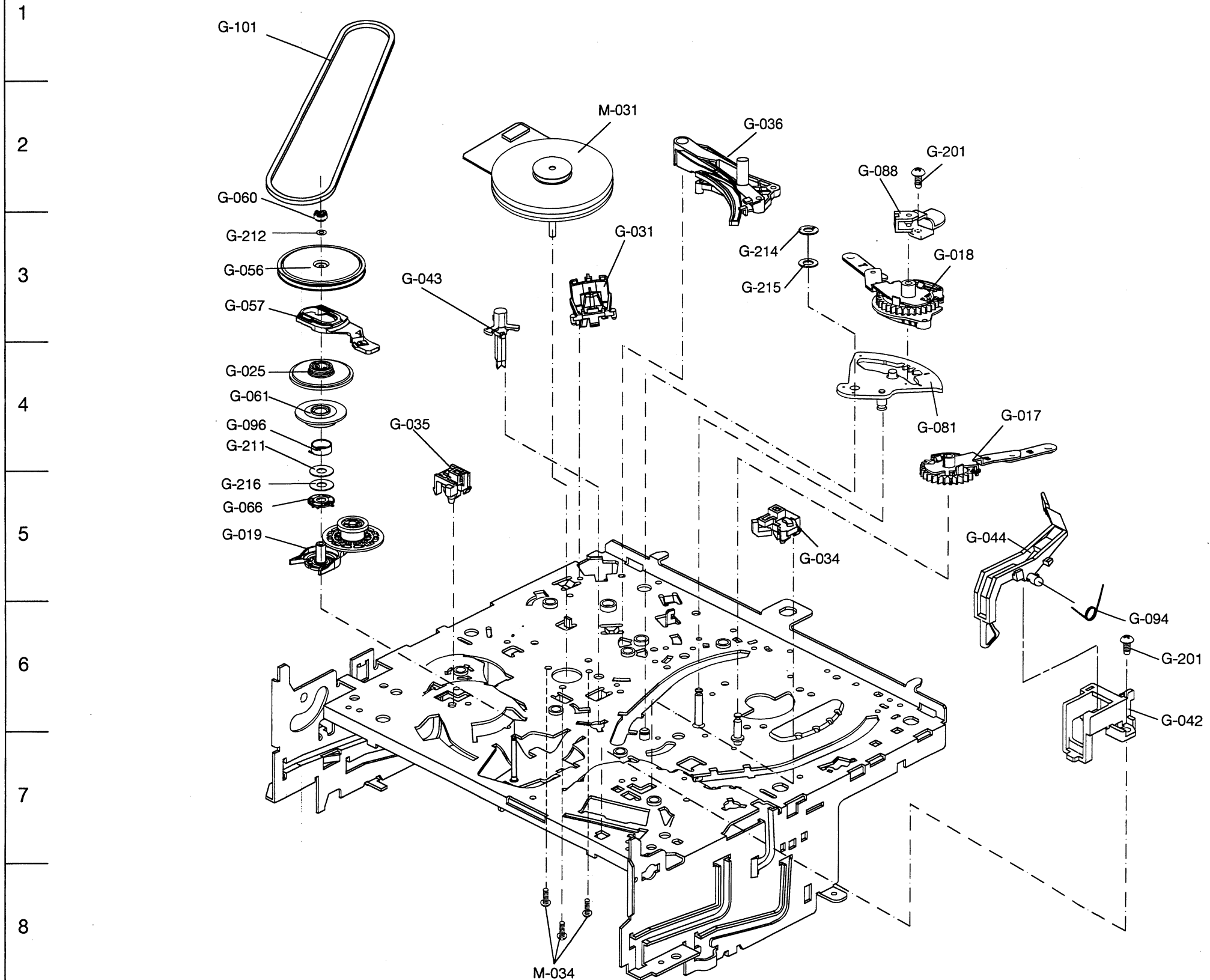
* Settled Service Parts

ITEM	PARTS NO.	*	ADDRESS	PARTS NAME	DESCRIPTION	Qt.
I-021	631D823O10		C-7	F/L SHAFT		1
I-031	573D004O10		B-7	D-8 ARM SPRING		2
M-011	948B403O01		G-5	MAIN PLATE ASSY		1
M-012	948D084O01		A-3	TAPE GUIDE ASSY (SP)	SUPPLY	1
M-013	948D086O01		B-3	TAPE GUIDE ASSY (TU)	TAKE UP	1
M-021	594C258O01		F-3	GUIDE CATCHER (SP)	SUPPLY	1
M-022	594C259O01		H-3	GUIDE CATCHER (TU)	TAKE UP	1
M-023	622D799O10		B-7	F/L BEARING		1
M-032	622D791O10		D-6	BELT ADJUSTER		1
M-033	669D224O90		F-3	SCREW	2.6x5	2
M-037	622D792O10		C-2	TENS AXIS HOLDER		1
S-011	522B061O10		A-3	GUIDE ROLLER (SP)	SUPPLY	1
T-011	522B061O10		B-3	GUIDE ROLLER (TU)	TAKE UP	1
N-011	621C759O10		E-1	BELT LEVER		1
N-012	622D790O10		D-1	BELT HOLDER		1
N-013	554D109O10		E-1	BRAKE BELT (SP)		1
O-011	621C760O10		F-8	BRAKE (TU)		1
O-021	572D975O10		F-8	BRAKE SPRING		1
O-031	554D103O10		F-8	BRAKE BELT (TU)		1
P-011	640C187O10		B-5	CHARGE BASE		1
P-012	640C188O20		B-5	CHARGE TIP		1
P-021	572D983O10		B-5	CHARGE SPRING		1

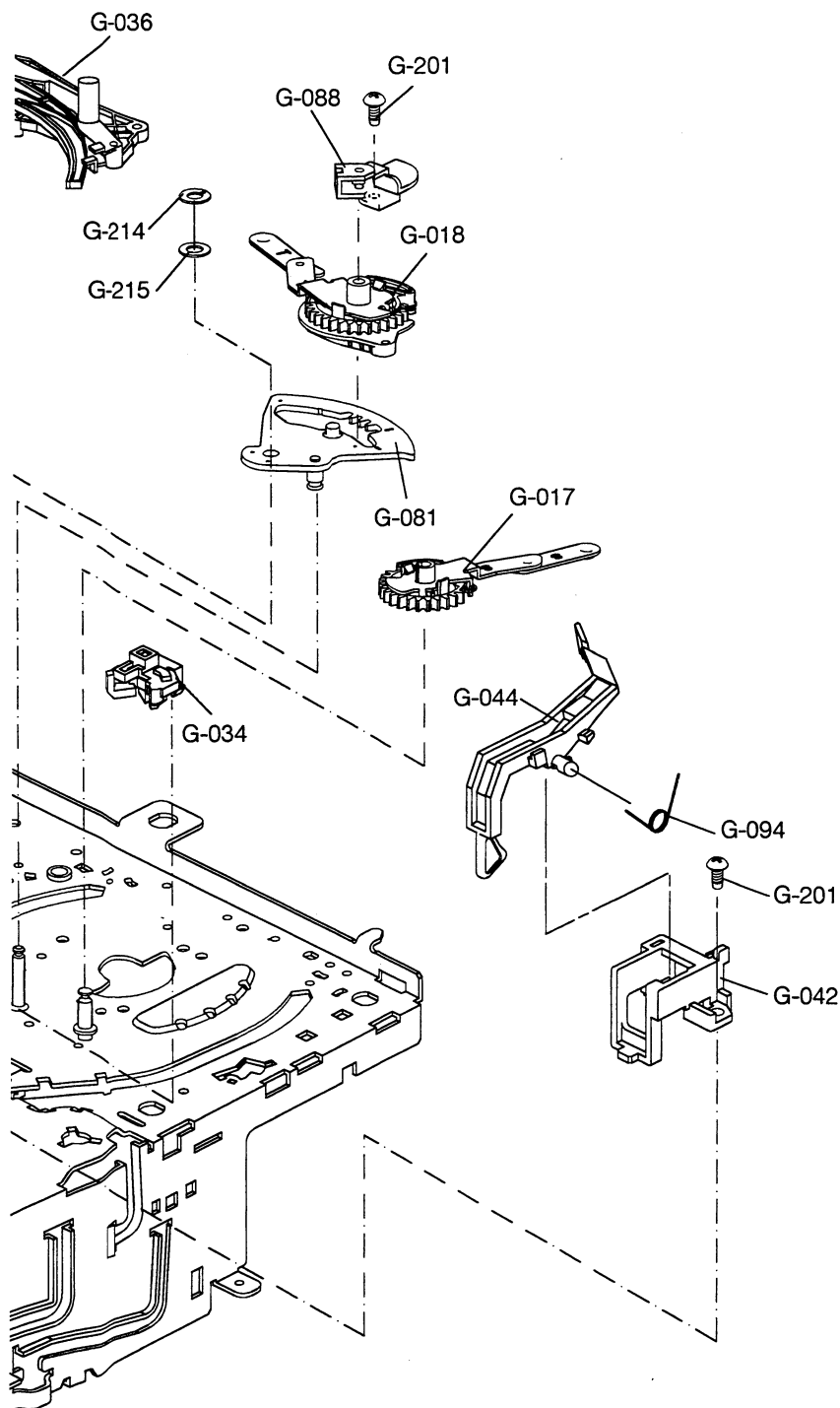
A-1

A	B	C	D	E	F	G	H	I
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DECK ASSEMBLY
DECK ASSEMBLY-2



F	G	H	I
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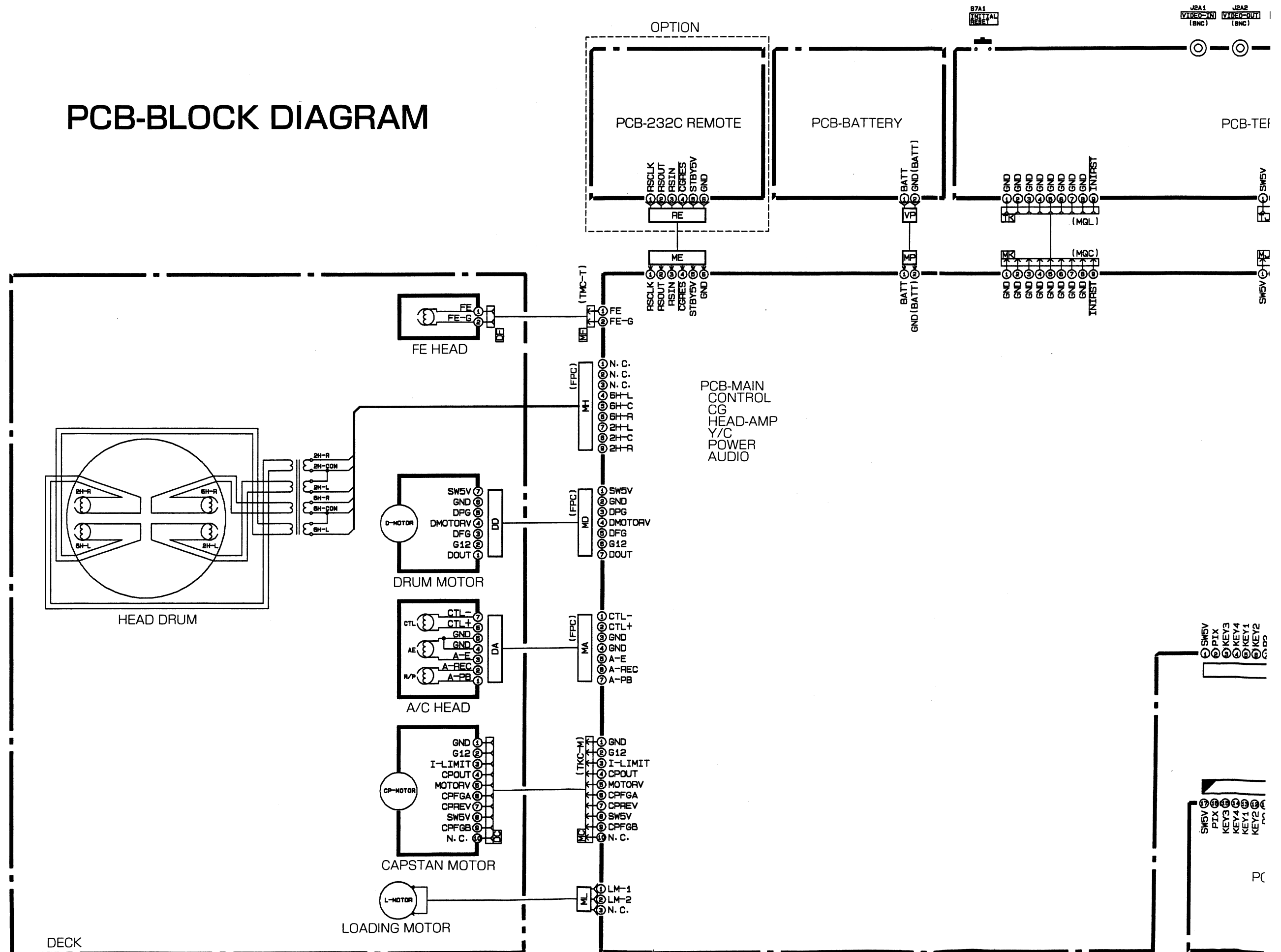


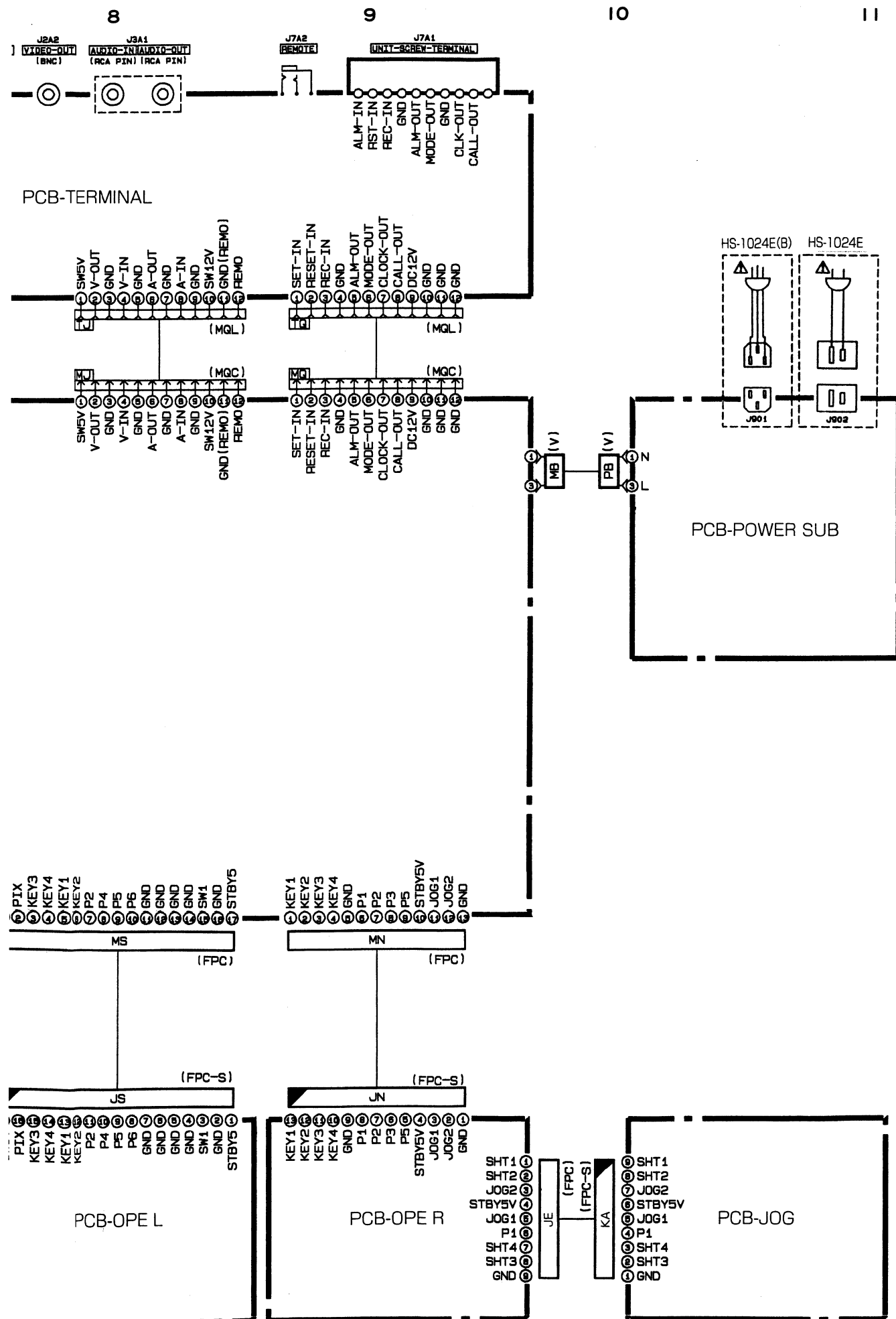
A-2

* Settled Service Parts

ITEM	PARTS NO.	*	ADDRESS	PARTS NAME	DESCRIPTION	Qt.
G-017	948D089O01	○	H-4	LOADING ARM ASSY (SP)	SUPPLY	1
G-018	948D090O01	○	G-3	LOADING ARM ASSY (TU)	TAKE UP	1
G-019	622D916O10	○	B-5	IDLER UNIT		1
G-025	948D098O03	○	B-4	PULLEY GEAR ASSY		1
G-031	622D800O10	○	E-3	MODE POSITION UNIT		1
G-034	622D801O10	○	F-5	REVERSE UNIT (SP)	SUPPLY	1
G-035	622D802O10	○	C-4	REVERSE UNIT (TU)	TAKE UP	1
G-036	621C831O10	○	F-2	BCP UNIT		1
G-042	621C807O10	○	I-6	REC HOLDER		1
G-043	621C765O10	○	C-3	LAMP GUIDE		1
G-044	621C766O20	○	H-5	REC LEVER		1
G-056	640C185O30	○	B-3	BELT PULLEY		1
G-057	640C186O10	○	B-3	SHIFT SLIDER		1
G-060	640D948O10	○	B-2	PULLEY BUSH		1
G-061	640D949O10	○	B-4	SLIP GEAR		1
G-066	640C189O20	○	B-5	SLIP ADJUSTER		1
G-081	594C228O10	○	G-4	A/L LEVER		1
G-088	594C304O10	○	G-2	SPACER PLATE		1
G-094	572D977O10	○	I-6	REC SPRING		1
G-096	573D073O10	○	B-4	SLIP SPRING		1
G-101	521D102O10	○	B-1	REEL BELT		1
G-201	669D224O90	○	G-2	SCREW	2.6×5	2
G-211	597D997O10	○	B-4	SLIP WASHER		1
G-212	552C017O30	○	B-3	THRUST WASHER	2.5×6×0.13	1
G-214	552C022O10	○	F-3	CUT WASHER	4.0×8.0×0.5	1
G-215	680P140O10	○	F-3	WASHER		1
G-216	552C012O50	○	B-5	THRUST WASHER	5.6×9.5×0.2	1
M-031	288P217O10	○	E-2	CAPSTAN MOTOR	F2QTB45	1
M-034	669D285O10	○	D-8	SCREW	M2.6×6	3

PCB-BLOCK DIAGRAM





CONTENTS	
①	PCB-BLOCK DIAGRAM
②	PCB-MAIN (HEAD-AMP) (AUDIO)
③	PCB-MAIN (Y/C)
④	PCB-MAIN (CONTROL) PCB-BATTERY
⑤	PCB-MAIN (CG) PCB-OPE L PCB-OPE R PCB-JOG
⑥	PCB-TERMINAL PCB-POWER SUB PCB-MAIN (POWER)
⑦⑧	PRINTED CIRCUIT BOARD PARTS LAYOUT

8. Correspondence of the units in the Schematic Diagrams to the SI units.

	Schematic Diagram	SI
Kilo	K	k
Hertz	HZ	Hz
Pico	P	p



SERVICING PRECAUTION

SYMBOLS INDICATE COMPONENTS HAVING SPECIAL CHARACTERISTICS IMPORTANT TO SAFETY AND PERFORMANCE. THEREFOR REPLACEMENT OF ANY SAFETY PARTS SHOULD BE IDENTICAL IN VALUE AND CHARACTERISTICS.
DON'T DEGRADE THE SAFETY OF THE VCR THROUGH IMPROPER SERVICING.

SCHEMATIC DIAGRAMS

• NOTE

- Each voltage should be within $\pm 20\%$ of the DC voltages measured with a digital voltmeter.
- The voltages parenthesised are on 3H recording mode. While those without parenthesised on 3H play back mode.
- Waveforms were taken with standard colour bar signal.
- TP6A, etc. show Test Points.

5. Capacitors

Value	Not indicated	pF, for numbers more than 1 μ F, for numbers less than 1
Dielectric Strength	Not indicated : 50V	
Tolerance	Not indicated $\pm 10\%$	No Tolerance is indicated for electrolytic capacitors and $\pm 20\%$
Sort	Not indicated : Ceramic capacitor (MP) : Polyester capacitor (PP) : Polypropylene film capacitor (ALM) : Aluminum electrolytic capacitor (TE) : Twin film capacitor (SC) : Semiconductor ceramic capacitor (MP) : Metalized paper (MPP) : Metalized plastic film capacitor (MPP) : Metalized polyester capacitor (MF, PP) : Polyester polypropylene film capacitor (PS) : Styrol capacitor (TAN) or (TANT) : Tantalum capacitor (BP) or (NP) : Electrolytic capacitor (BP) or (NP) : Non polarized electrolytic capacitor	
Chips	Not indicated : Ceramic capacitor chip (BP) or (NP) : Electrolytic capacitor (BP) or (NP) : Non polarized electrolytic capacitor chip	
Characteristic (only ceramic capacitor)	Not indicated : F or B (high dielectric percentage) CH, SL, etc. : Temperature compensating types	

6. Resistors

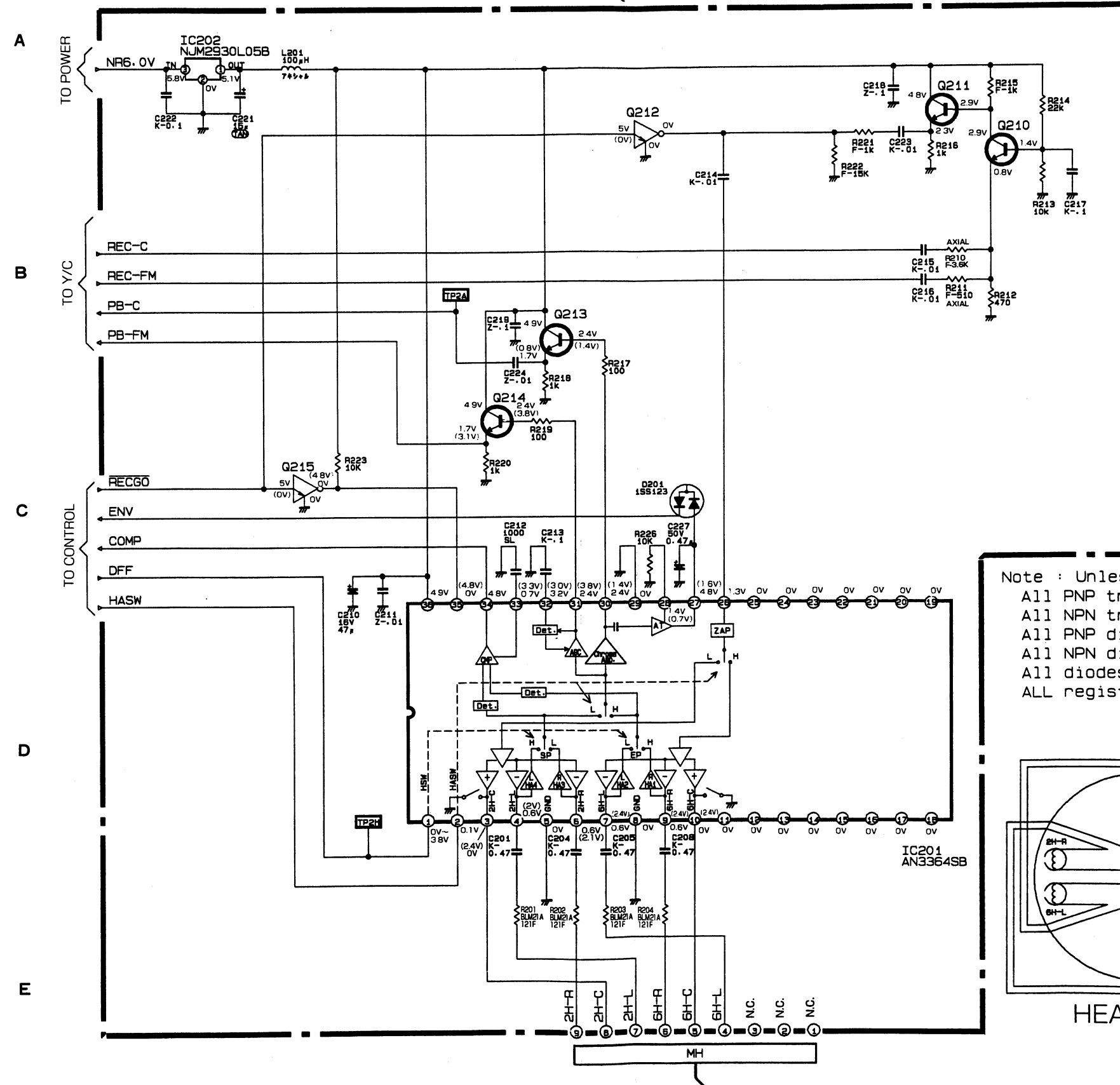
Value	Not indicated	Ω K = k Ω (1000 Ω) M = M Ω (1000k Ω)
Wattage	Parts except for chips	Not indicated = 1/4W or 1/6W
	Chips	Not indicated = 1/10W
Tolerance	Not indicated	$\pm 5\%$ D $\pm 0.5\%$ J $\pm 5\%$ F $\pm 1\%$ K $\pm 10\%$
Sort	Parts except for chips	Not indicated : Carbon resistor (S) : Fixed composition resistor (MB) : Metal oxide film resistor (type B) (CE) : Cemented resistor (W) : Wire wound resistor (M) : Metal film resistor (MPC) : Metal plate cement resistor (ML) : Metal liner resistor
	Chip	Not indicated : Chip resistor

7. This is a basic schematic diagram. Some sets may be subject to modification according to engineering improvement.

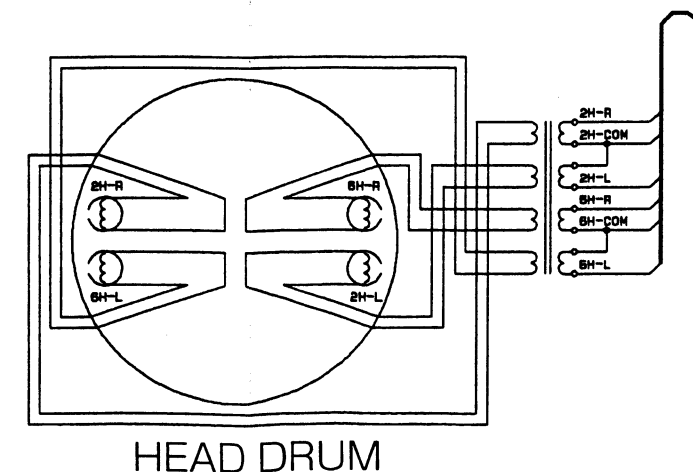
SPECIFIC SYMBOL	
	Zener Diode
	Varicap
	Thermistor
	Fusible Resistor
	Crystal unit
	LE Diode
	Photo Diode
	Ceramic filter
	PNP DIGITAL TRANSISTOR
	NPN DIGITAL TRANSISTOR

HS-1024E
HS-1024E(B)

(HEAD-AMP) ⚠ PCB-MAIN



Note : Unless otherwise specified
 All PNP transistors are 2SA1235-E.F
 All NPN transistors are 2SC3052-G
 All PNP digital transistors are DTA124EKA/RT1P241C
 All NPN digital transistors are DTC124EKA/RT1N241C
 All diodes are 1SS254/1SS133
 ALL resistors are 1/10W

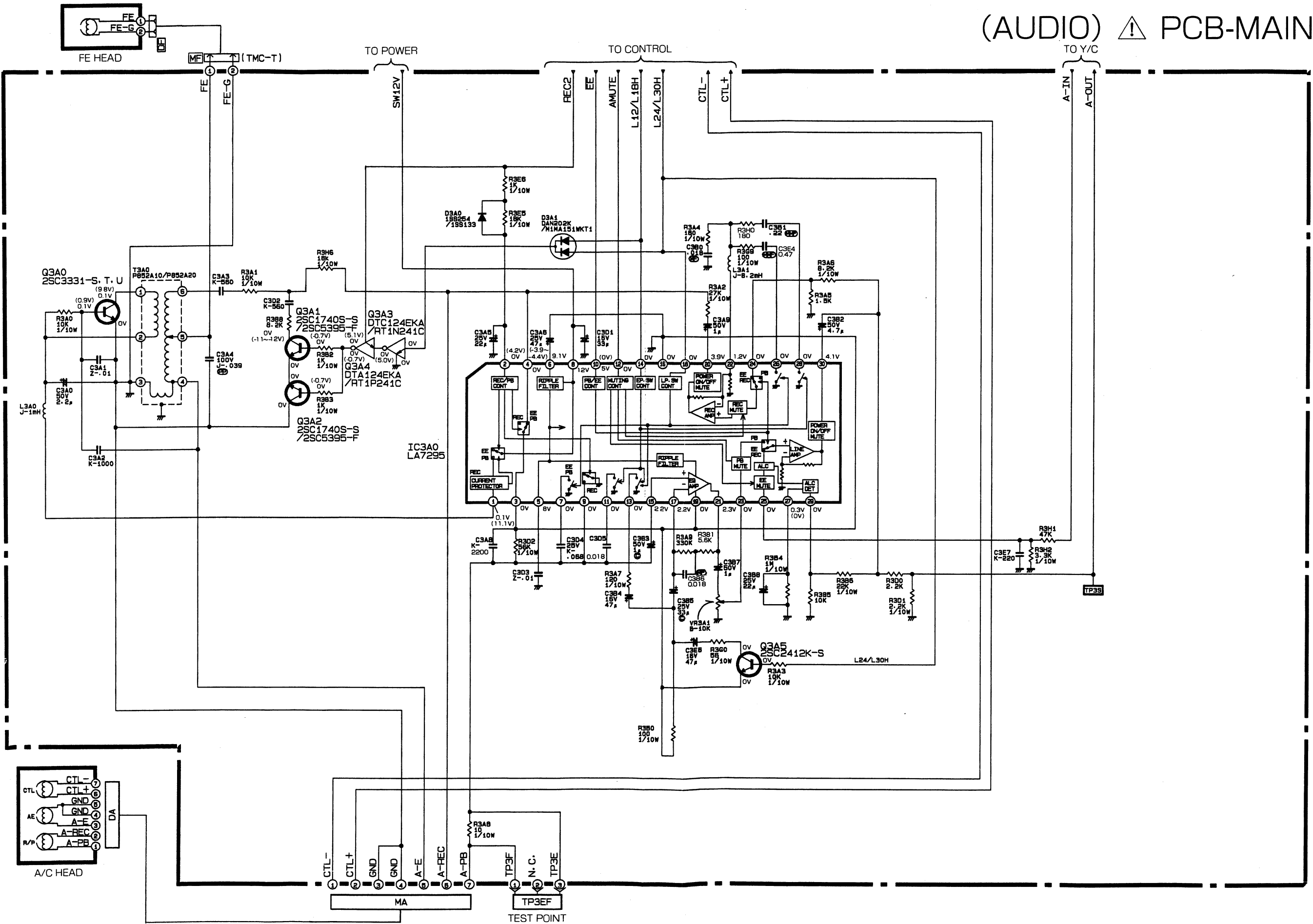


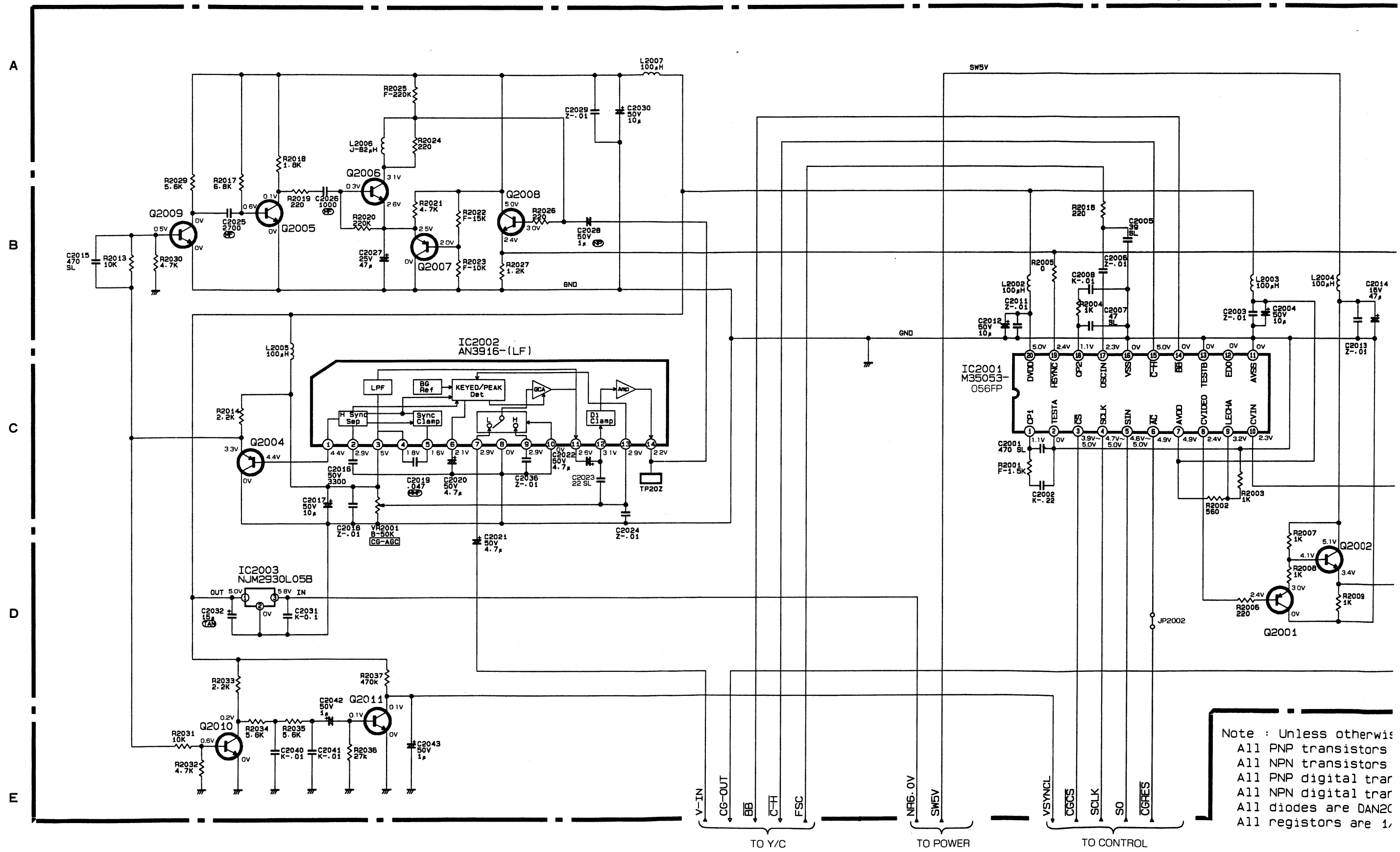
HS-1024E
 HS-1024E(B)

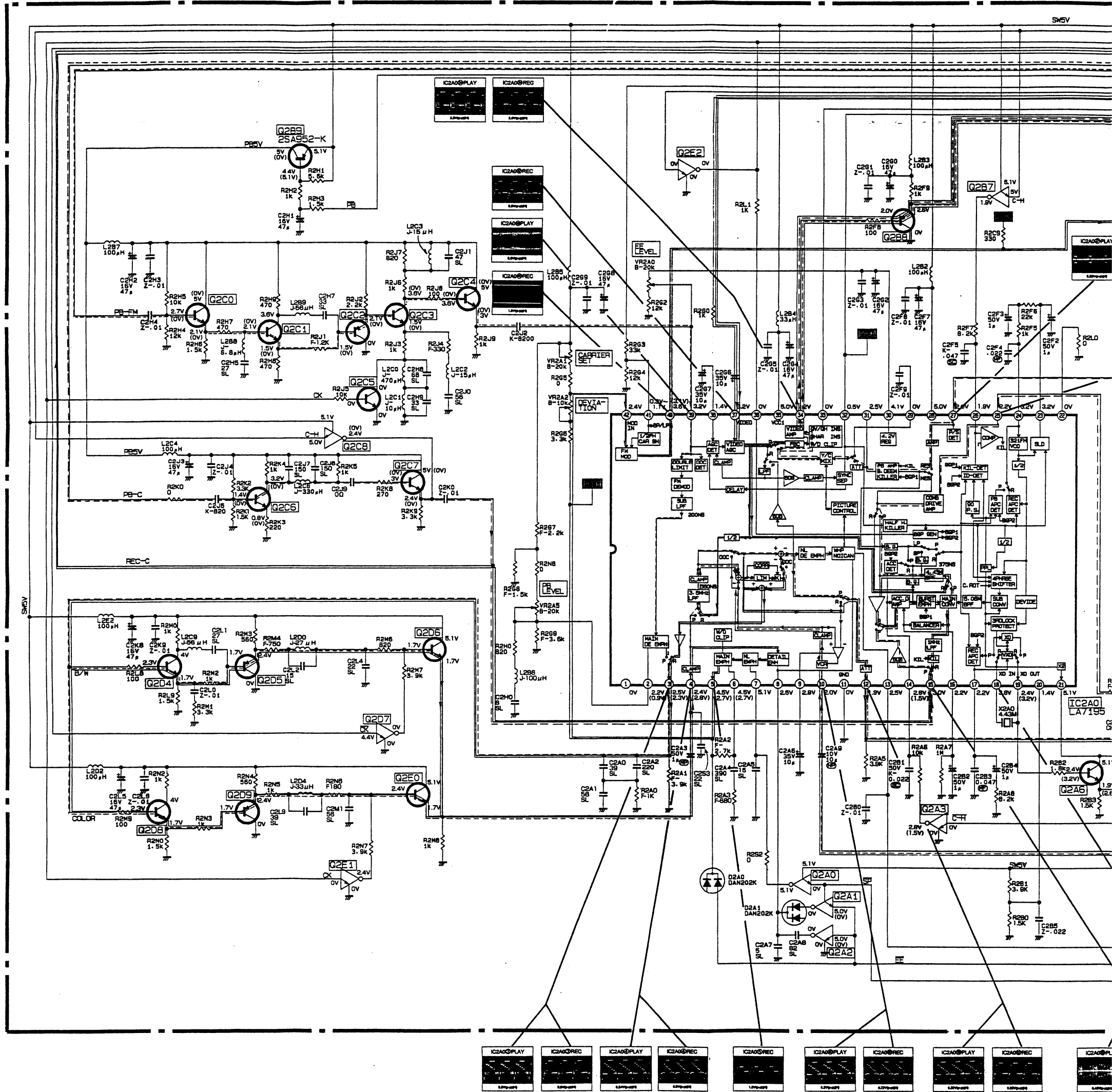
②

(AUDIO) ⚠ PCB-MAIN

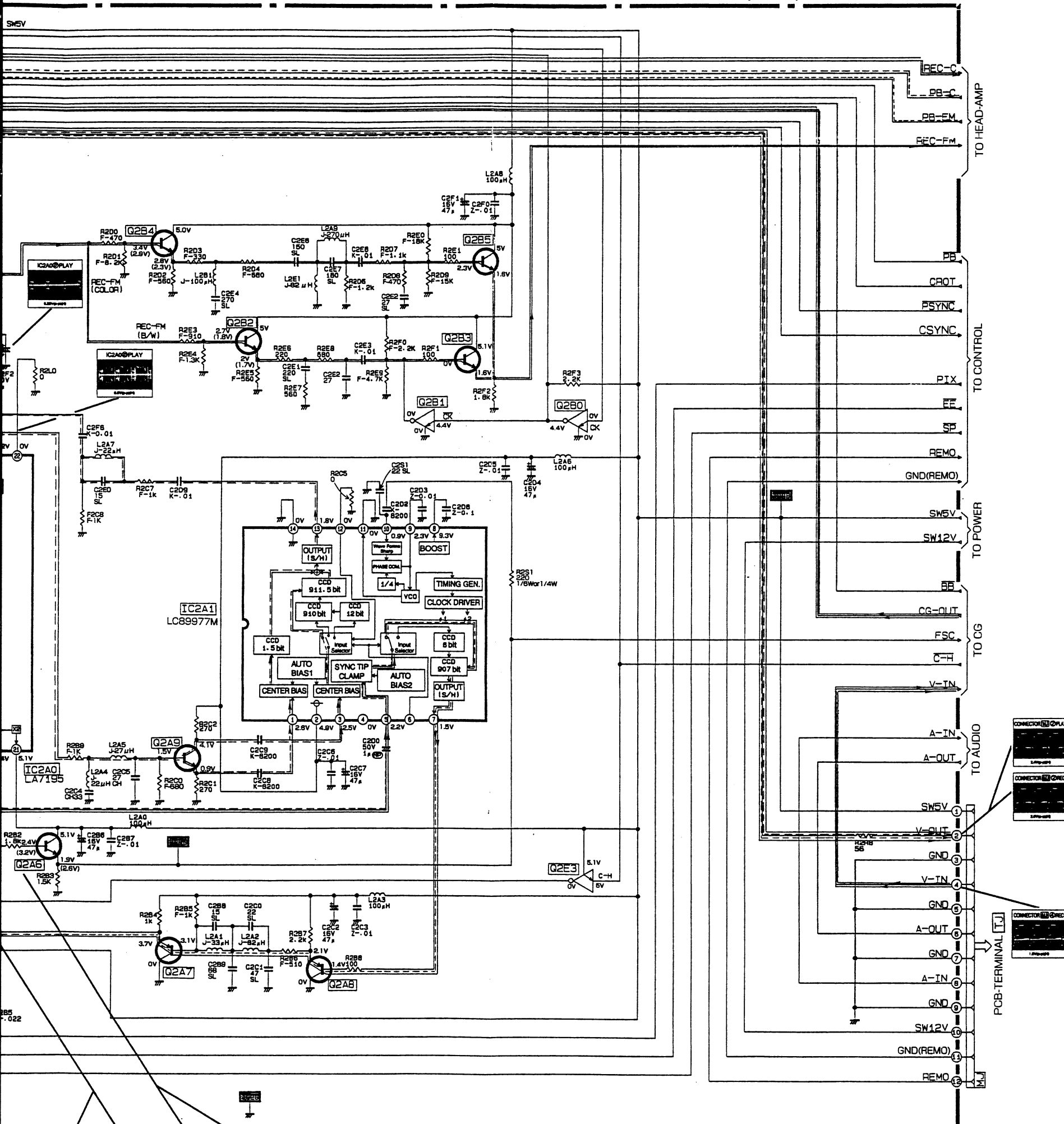
41C
41C







(Y/C) PCB-MAIN

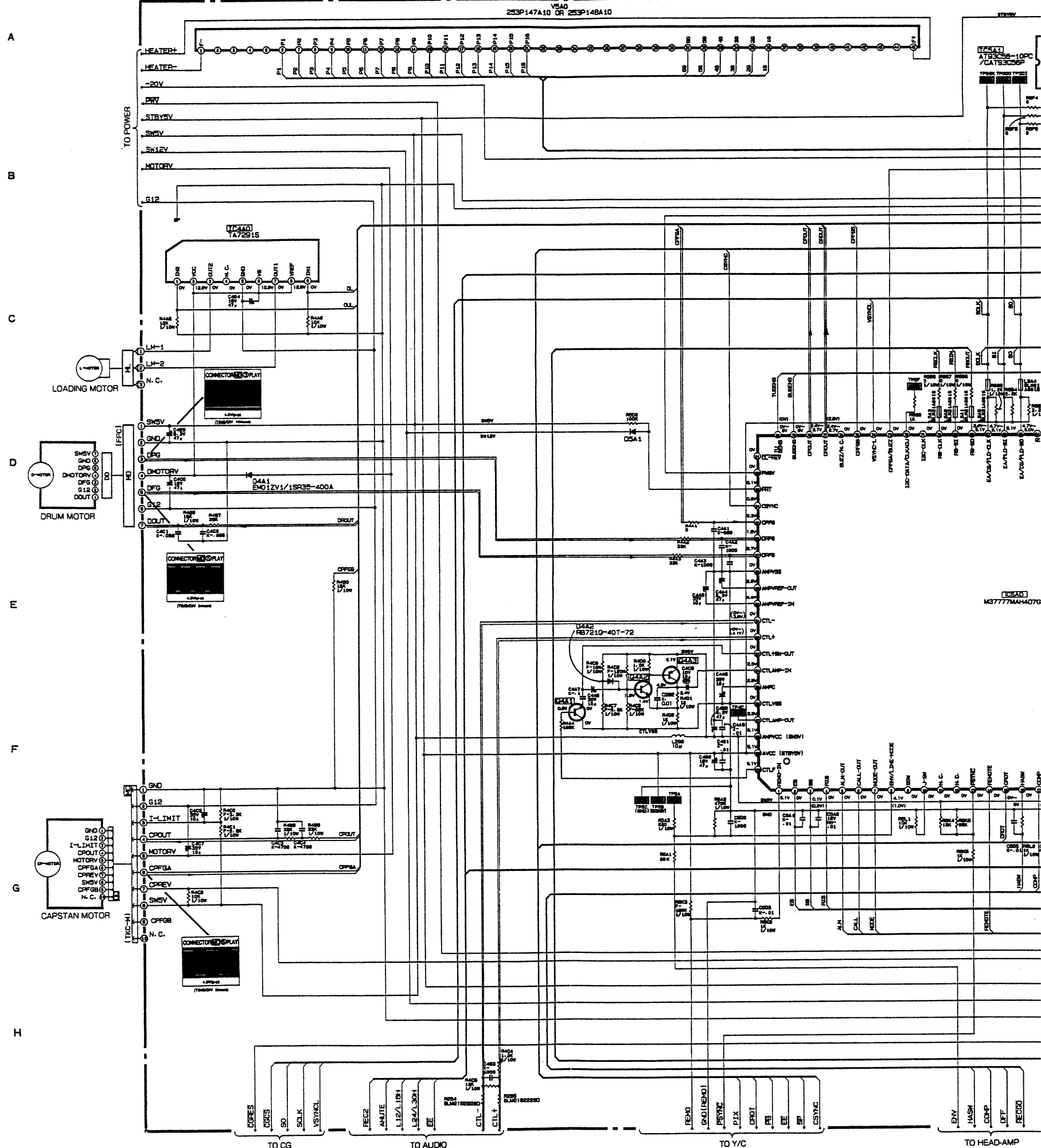


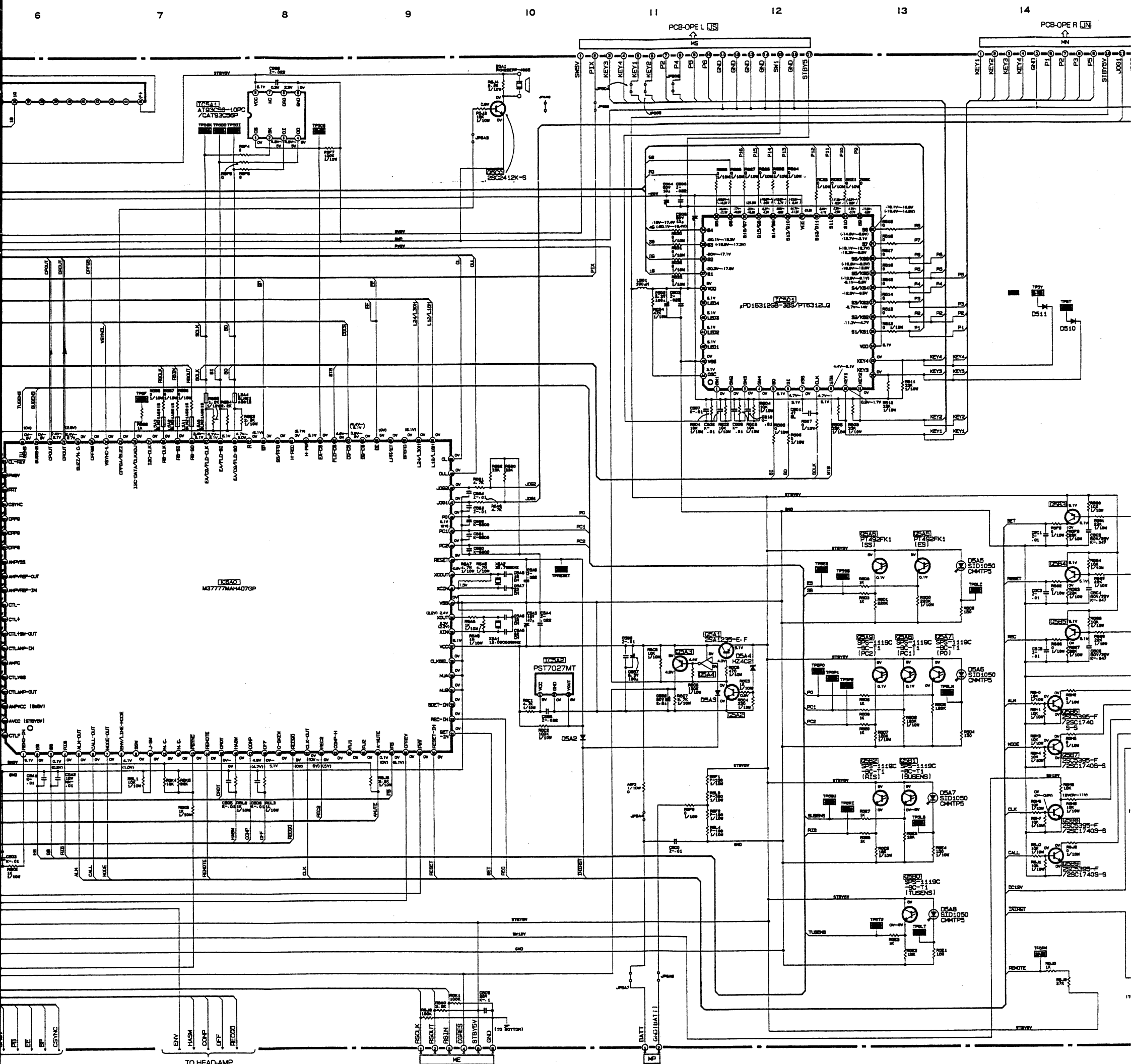
Note : Unless otherwise specified

- All PNP transistors are 2SA1235-E.F
- All PNP transistors are 2SC3052-G
- All PNP digital transistors are DTA124EKA/RT1P241C
- All NPN digital transistors are DTC124EKA/RT1N241C
- All diodes are DAN202K/M1MA151WKT1
- All resistors are 1/10W

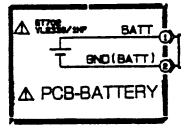
Recording of Luminance Signal
Playback of Luminance Signal
Recording of Colour Signal
Playback of Colour Signal

(CONTROL) PCB-MAIN





Note:
 Unless otherwise specified
 All diodes are 1SS254/1SS133.
 All NPN transistors are 2N2412K-RS/2SD601A-RS.
 All PNP transistors are 2SA1037AK-RS.
 All PNP digital transistors are 2SA124EKA/RT1P241C.
 All resistors are 1/6W OR 1/4W.



— Drum Servo System
 — Capstan Servo System

11

12

13

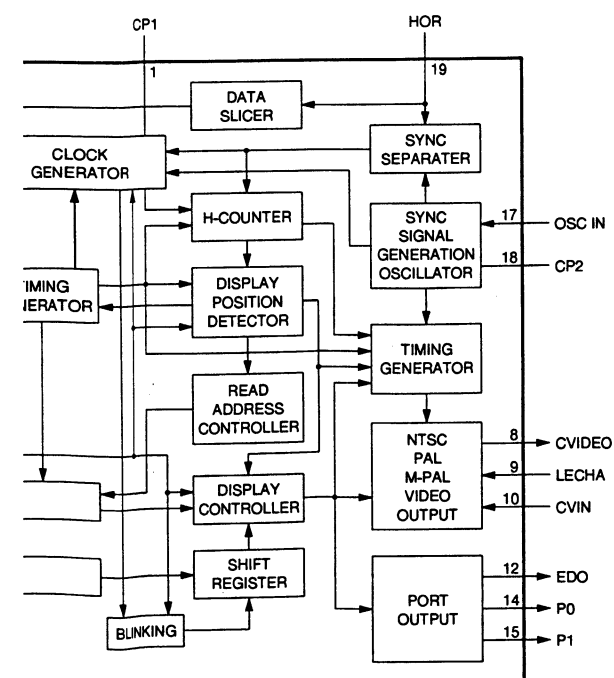
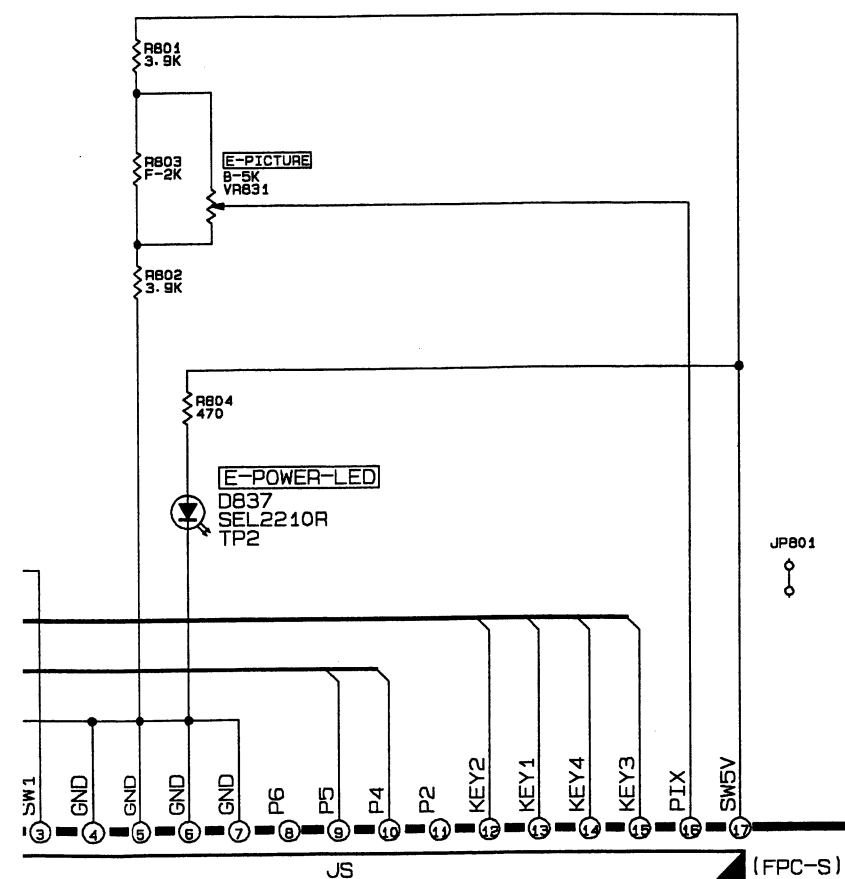
14

15

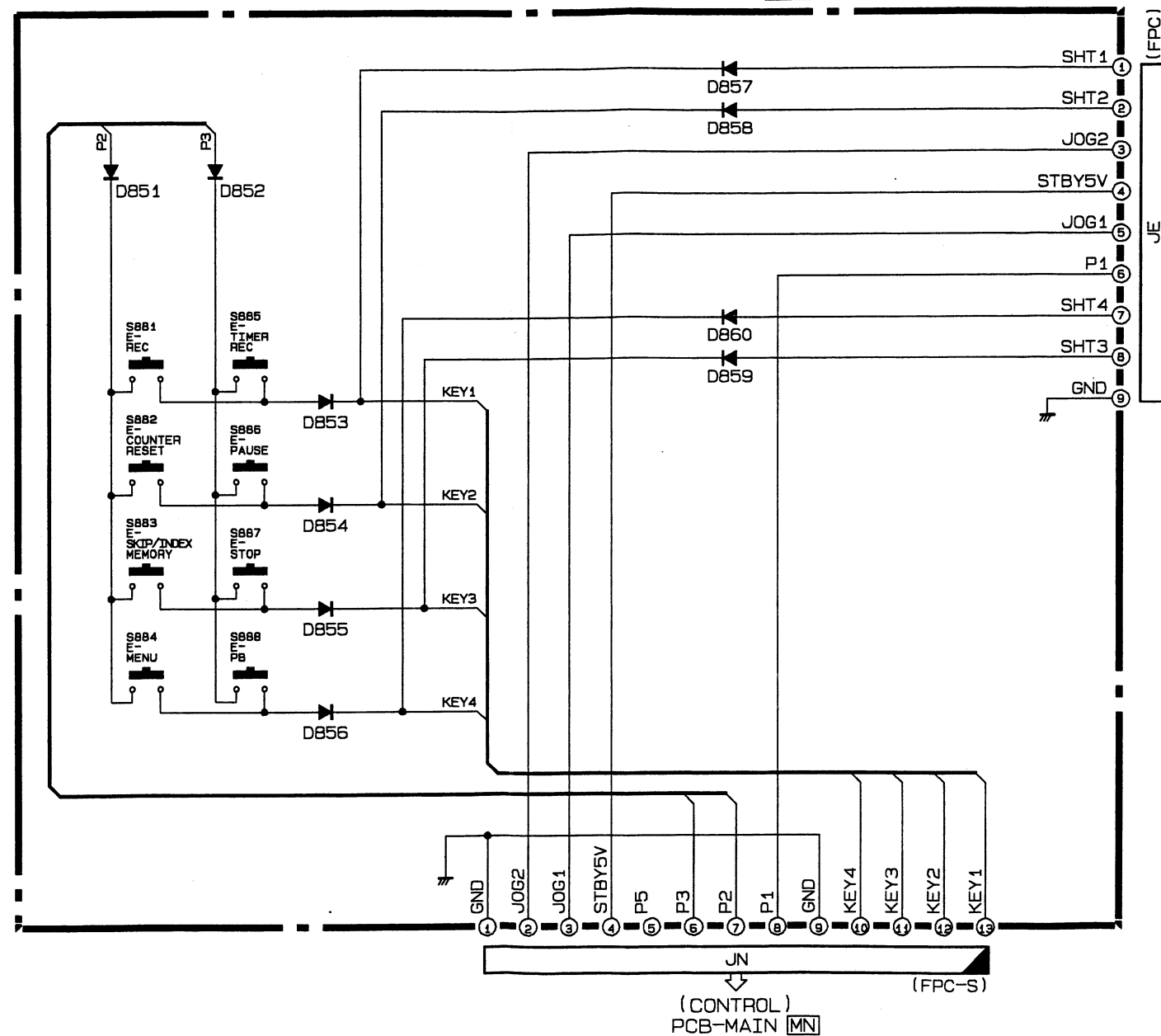
16

17

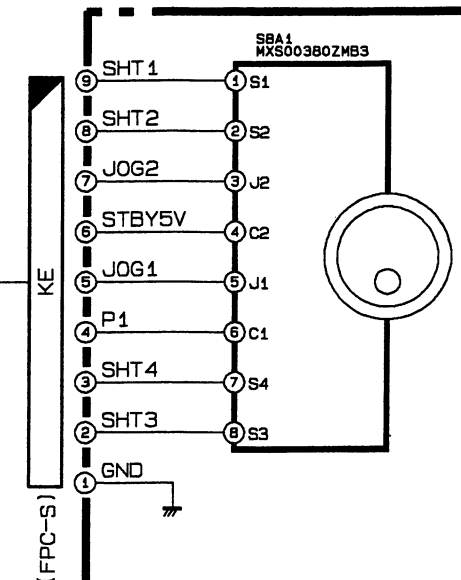
! PCB-OPE L



! PCB-OPE R



! PCB-JOG



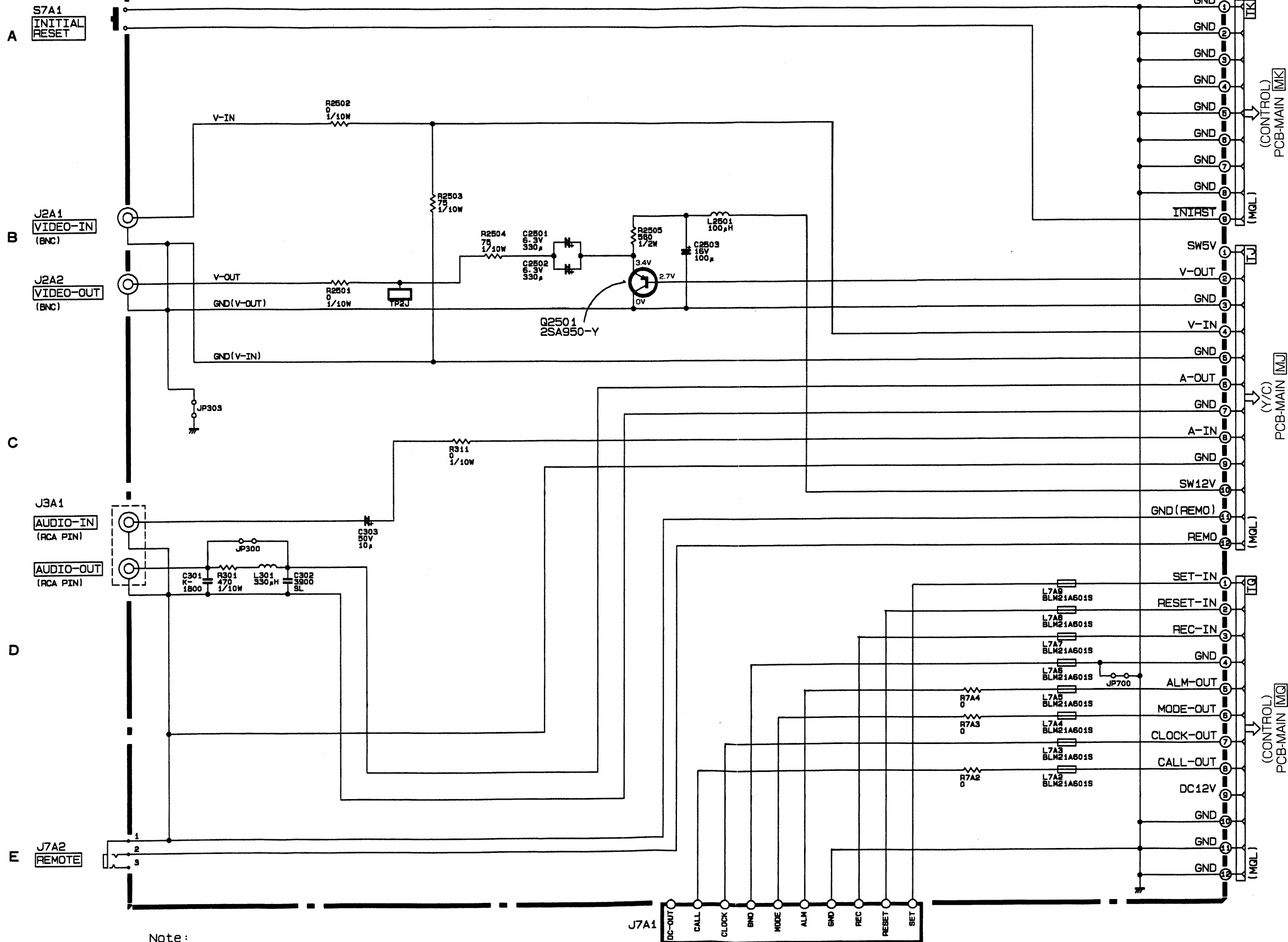
Note:
Unless otherwise specified
All diodes are 1SS254/1SS133.

HS-1024E
HS-1024E(B)

5

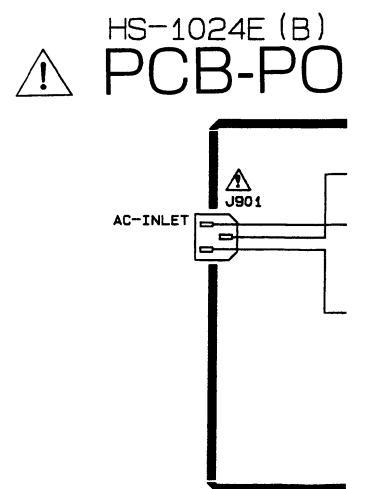
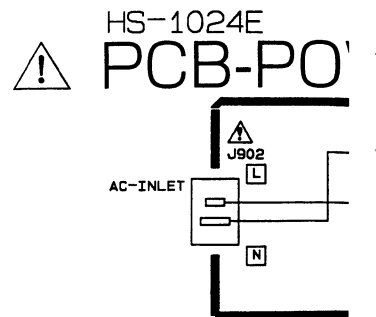
1 2 3 4 5 6 7

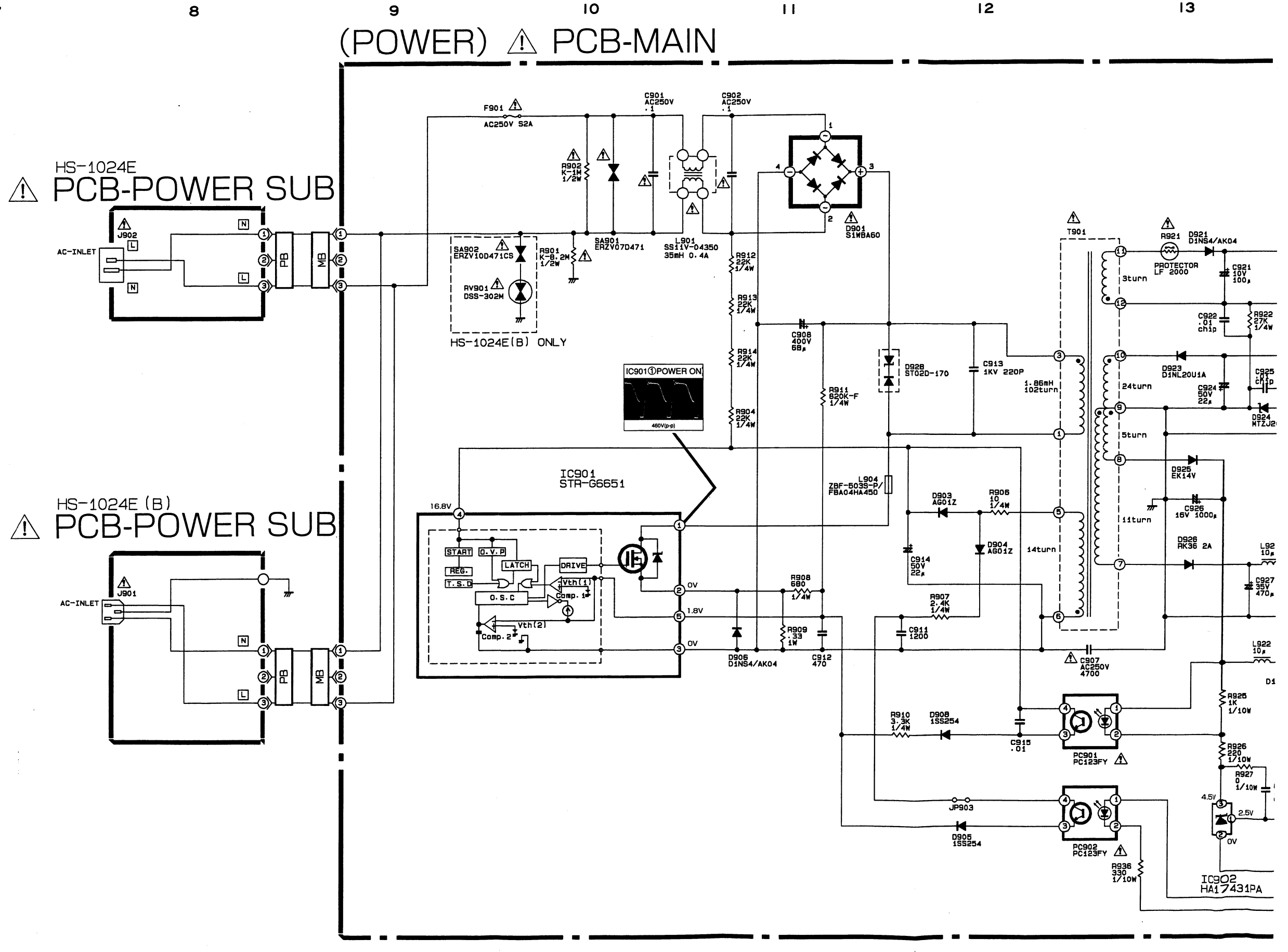
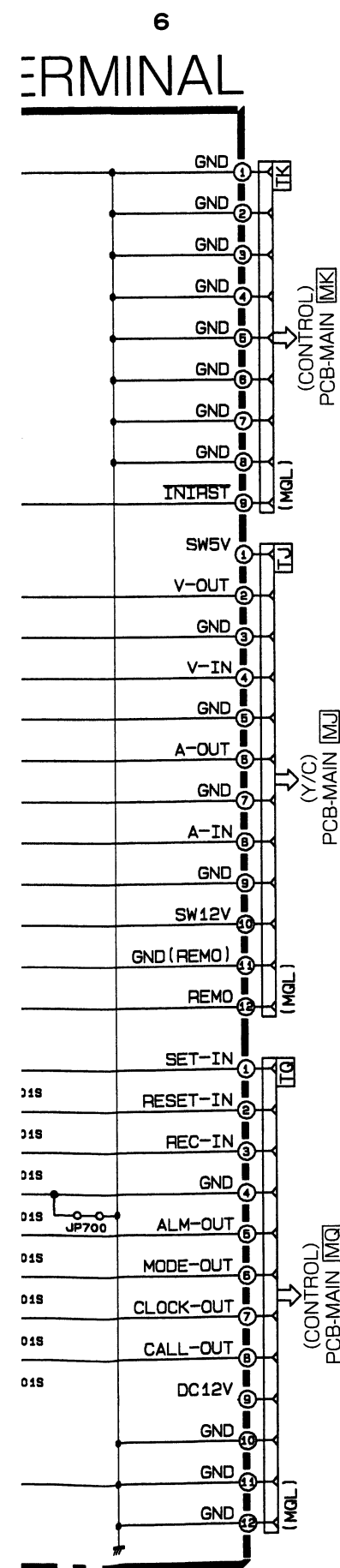
! PCB-TERMINAL

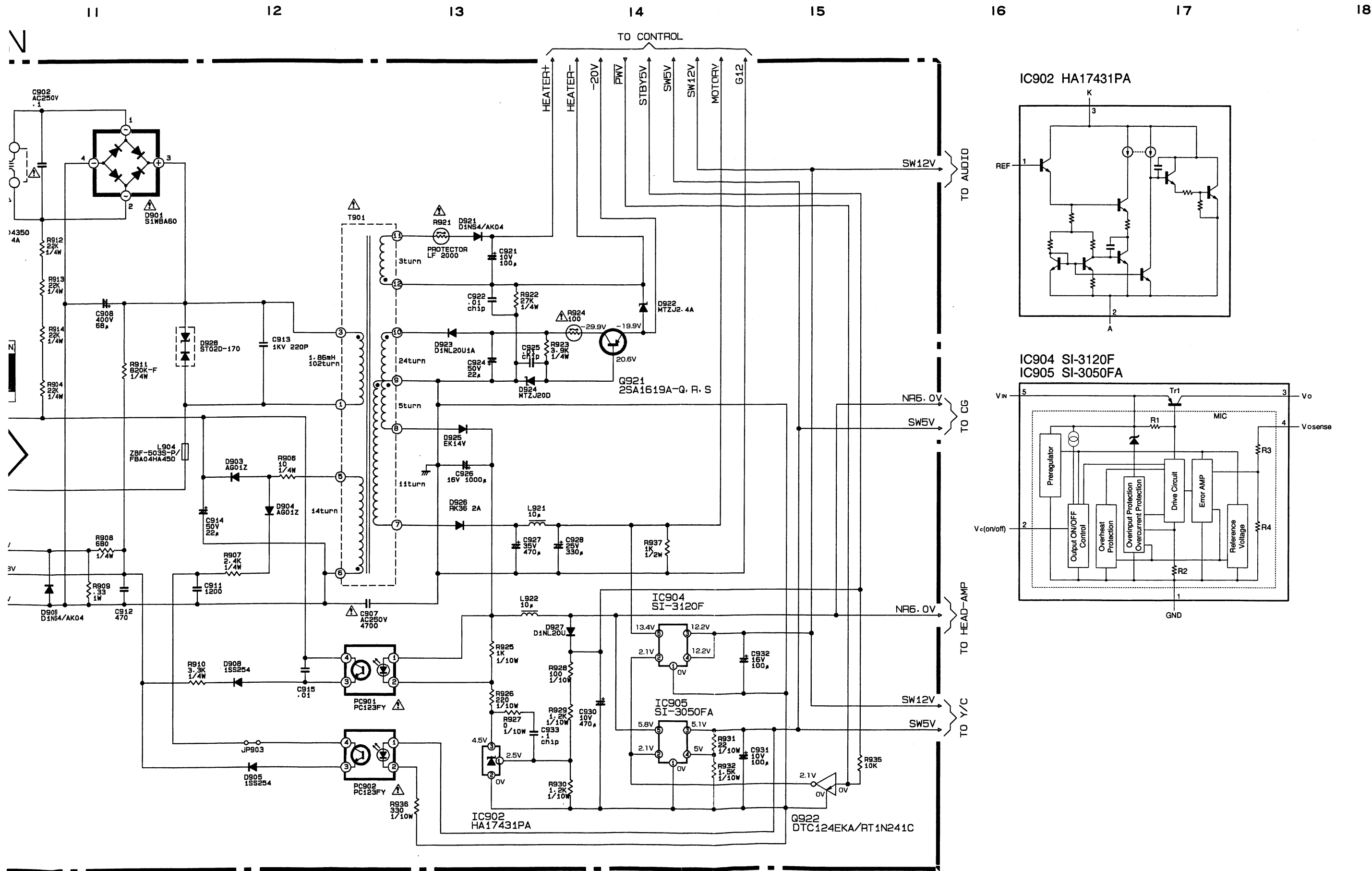


Note:
 Unless otherwise specified
 All diodes are 1SS254/1SS133
 All resistors are 1/6W OR 1/4W

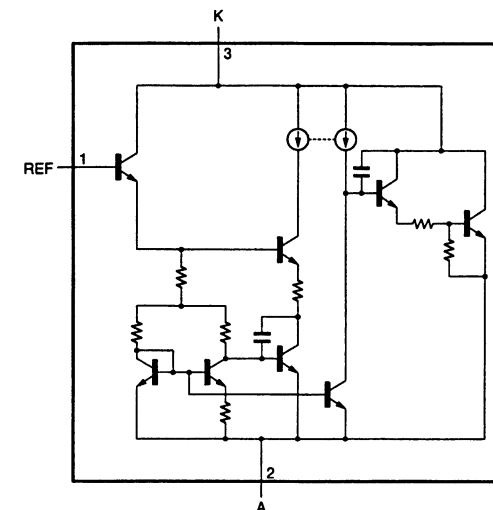
HS-1024E
 HS-1024E(B)



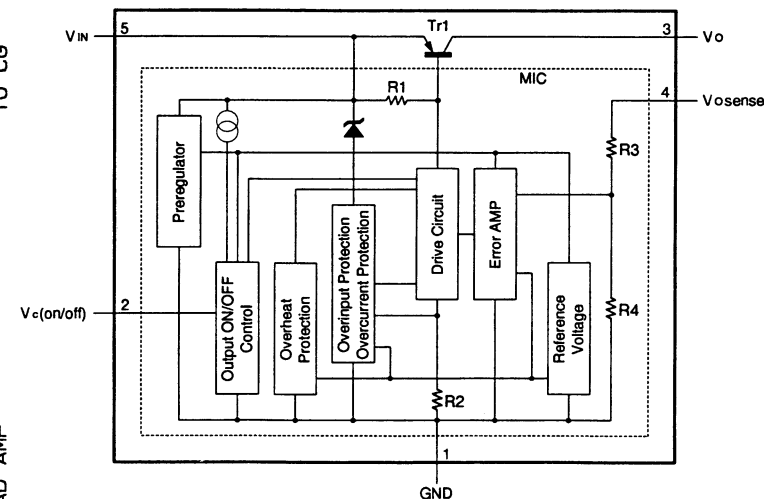


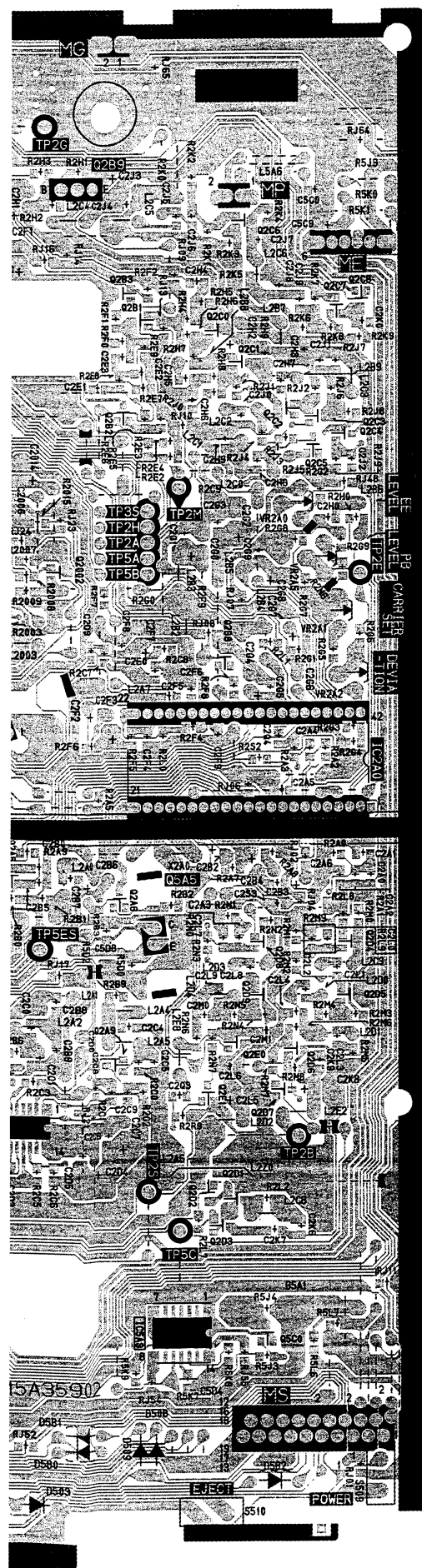


IC902 HA17431PA



IC904 SI-3120F
IC905 SI-3050FA

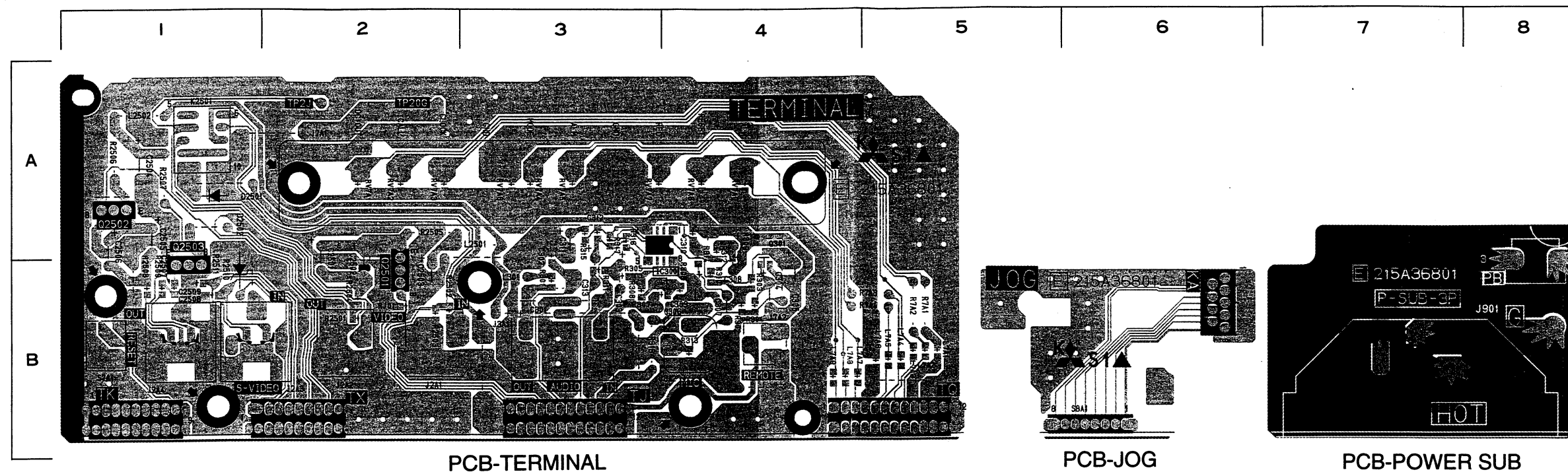




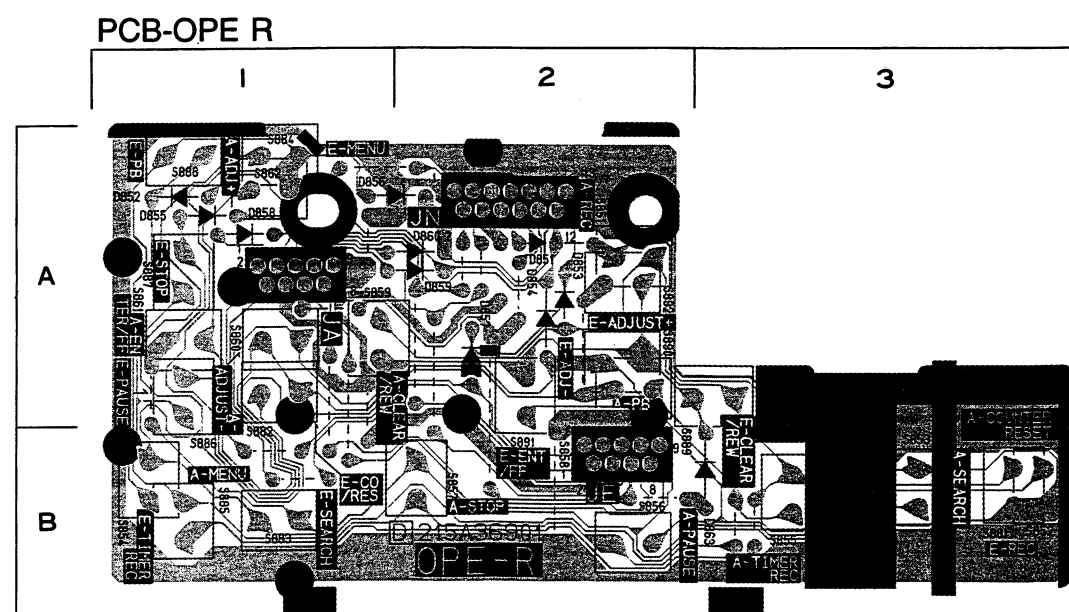
PCB-MAIN

SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS
B5A1	E-7	C221	C-5	C2F7	C-6	C3A2	A-3	C503	E-3	C924	D-1	FC11	B-1	L2C5	A-6	Q2009	B-4	Q3B2	B-3	R2031	C-4	R2D7			
		C222	C-5	C2F8	C-6	C3A3	A-3	C504	E-3	C925	D-1	FC12	A-1	L2C6	A-7	Q2010	C-4	Q3B3	C-3	R2032	C-4	R2D8			
C2001	B-5	C223	B-4	C2F9	C-6	C3A4	A-3	C505	E-3	C926	D-1	FC21	A-1	L2C7	A-4	Q2011	C-3	Q3B4	C-3	R2033	C-4	R2D9			
C2002	B-5	C224	A-5	C2G0	B-6	C3A5	B-2	C506	E-2	C927	D-1	FC22	A-1	L2C8	D-7	Q210	B-4	Q3B5	B-3	R2034	C-4	R2E0			
C2003	B-6	C226	B-4	C2G1	B-6	C3A6	B-2	C507	E-4	C928	D-2			L2C9	D-7	Q211	B-4	Q3B6	B-3	R2035	C-4	R2E1			
C2004	C-6	C227	B-5	C2G2	B-6	C3A7	B-3	C508	E-3	C930	E-1	IC2001	B-6	L2D0	D-7	Q212	B-4	Q4A1	D-4	R2036	C-3	R2E2			
C2005	B-6	C2A0	C-7	C2G3	B-6	C3A8	B-2	C509	E-3	C931	E-1	IC2002	B-4	L2D1	D-7	Q213	B-5	Q4A2	D-4	R2037	C-3	R2E3			
C2006	B-6	C2A1	C-7	C2G4	C-7	C3A9	B-3	C510	E-4	C932	D-2	IC2003	C-4	L2D2	D-6	Q214	B-5	Q4A3	D-4	R204	B-5	R2E4			
C2007	B-6	C2A2	C-7	C2G5	C-7	C3B0	B-4	C5A1	D-4	C933	D-1	IC201	B-5	L2D3	D-7	Q215	B-5	Q5A1	D-5	R210	B-5	R2E5			
C2008	B-6	C2A3	C-6	C2G6	C-7	C3B1	B-4	C5A2	D-4			IC202	C-5	L2D4	D-6	Q216	B-5	Q5A2	D-5	R211	B-5	R2E6			
C2009	B-5	C2A4	C-7	C2G7	B-7	C3B2	B-3	C5A3	C-3	D201	B-5	IC2A0	C-7	L2E1	A-6	Q2A0	C-5	Q5A3	D-5	R212	B-5	R2E7			
C201	B-5	C2A5	C-7	C2G8	B-7	C3B3	B-3	C5A4	D-3	D2A0	C-5	IC2A1	D-6	L2E2	D-7	Q2A1	C-5	Q5A4	D-5	R213	B-4	R2E8			
C2011	B-5	C2A6	C-7	C2G9	B-7	C3B4	B-3	C5A5	D-3	D2A1	C-6	IC3A0	B-3	L2E8	D-6	Q2A2	C-5	Q5A5	C-6	R214	B-4	R2E9			
C2012	B-5	C2A7	C-5	C2H0	B-7	C3B5	B-3	C5A6	D-3	D3A0	C-3	IC4A0	A-2	L2S1	E-1	Q2A3	C-6	Q5A6	C-2	R215	B-4	R2F0			
C2013	B-6	C2A8	C-5	C2H1	A-6	C3B6	B-3	C5A7	D-3	D3A1	C-3	IC4A1	D-2	L2S2	C-3	Q2A4	C-6	Q5A7	B-2	R216	B-4	R2F1			
C2014	B-6	C2A9	C-6	C2H2	B-6	C3B7	B-3	C5A8	D-3	D4A1	A-2	IC501	E-4	L2S3	A-2	Q2A5	C-6	Q5A8	B-2	R217	B-5	R2F2			
C2015	B-4	C2B0	C-6	C2H3	B-7	C3B8	B-3	C5A9	D-3	D4A2	D-4	IC5A0	D-3	L2S6	A-3	Q2A6	C-6	Q5A9	B-2	R218	B-5	R2F3			
C2016	B-4	C2B1	C-6	C2H4	A-6	C3B9	B-3	C5B0	D-3	D501	E-3	IC5A1	E-5	L2S7	A-4	Q2A7	D-6	Q5B0	D-3	R219	B-5	R2F4			
C2017	B-4	C2B2	C-6	C2H5	B-6	C3D1	B-2	C5B1	D-3	D502	E-2	IC5A2	C-3	L2S8	D-4	Q2A8	D-6	Q5B1	D-5	R220	B-5	R2F5			
C2018	B-4	C2B3	C-7	C2H6	B-6	C3D2	A-3	C5B2	D-3	D503	E-6	IC5A3	E-6	L2Z0	D-6	Q2A9	D-6	Q5B2	E-5	R221	B-4	R2F6			
C2019	B-4	C2B4	C-7	C2H7	B-7	C3D3	B-3	C5B3	D-3	D504	E-3	IC5A4	B-1	L3A0	B-2	Q2B0	B-6	Q5B3	A-3	R222	B-4	R2F7			
C202	B-5	C2B5	C-6	C2H8	B-7	C3D4	B-3	C5B4	D-3	D505	E-3	IC901	C-1	L3A1	B-3	Q2B1	A-6	Q5B4	A-3	R223	B-5	R2F8			
C2020	B-4	C2B6	C-6	C2H9	B-6	C3D5	B-3	C5B5	C-3	D506	E-3	IC902	D-1	L501	E-3	Q2B2	B-6	Q5B5	A-3	R224	B-5	R2F9			
C2021	B-4	C2B7	C-6	C2J0	B-6	C3D6	B-2	C5B6	D-4	D507	E-2	IC904	D-2	L5A1	D-3	Q2B3	A-6	Q5B6	A-3	R225	B-5	R2G0			
C2022	B-4	C2B8	D-6	C2J1	B-7	C3E4	B-3	C5B7	D-4	D508	E-6	IC905	E-1	L5A2	D-3	Q2B4	B-6	Q5B7	A-3	R226	B-4	R2G1			
C2023	B-4	C2B9	D-6	C2J2	B-7	C3E6	B-2	C5B8	D-5	D509	E-6			L5A3	D-3	Q2B5	A-6	Q5B8	A-2	R2A0	C-7	R2G2			
C2024	B-4	C2C0	D-6	C2J3	A-6	C3E7	B-3	C5B9	E-5	D510	E-2	K901	A-1	L5A4	D-3	Q2B7	B-6	Q5B9	A-2	R2A1	C-7	R2G3			
C2025	B-4	C2C1	D-6	C2J4	A-6	C3F0	C-3	C5C0	A-7	D511	E-2			L5A5	E-3	Q2B8	C-6	Q5C0	E-7	R2A2	C-7	R2G4			
C2026	B-4	C2C2	D-6	C2J5	A-6	C4A1	E-3	C5C1	A-3	D5A1	E-3	L2002	B-5	L5A6	A-7	Q2B9	A-6	Q921	E-1	R2A3	C-7	R2G5			
C2027	C-5	C2C3	D-6	C2J6	A-6	C4A2	D-3	C5C2	A-3	D5A2	D-4	L2003	C-6	L901	B-1	Q2C0	B-6	Q922	D-2	R2A5	C-6	R2G6			
C2028	C-4	C2C4	D-6	C2J7	A-7	C4A3	D-3	C5C3	A-3	D5A3	D-5	L2004	B-6	L904	C-1	Q2C1	B-6			R2A6	C-6	R2G7			
C2029	C-4	C2C5	D-6	C2J8	A-7	C4A4	D-3	C5C4	A-3	D5A4	D-5	L2005	B-4	L921	D-1	Q2C2	B-7			R2A7	C-6	R2G8			
C203	B-5	C2C6	D-6	C2J9	A-7	C4A5	D-4	C5C5	A-3	D5A5	D-4	L2006	B-5	L922	E-1	Q2C3	B-7			R2A8	C-7	R2G9			
C2030	C-4	C2C7	D-6	C2K0	A-7	C4A6	D-4	C5C6	A-3	D5A6	B-2	L2007	C-4			Q2C4	B-7			R2A9	C-6	R2H0			
C2031	C-4	C2C8	D-6	C2K6	D-7	C4A7	D-4	C5C7	E-3	D5A7	D-5	L201	B-5	MA	A-3	Q2C5	B-7			R2B0	C-6	R2H1			
C2032	C-4	C2C9	D-6	C2K7	D-7	C4A8	D-4	C5C3	E-3	D5A8	D-3	L2A0	C-6	MB	A-1	Q2C6	A-6			R2B1	C-6	R2H2			
C2033	C-5	C2D0	D-6	C2K8	D-7	C4A9	D-4	C5C9	A-7	D5A9	D-5	L2A1	D-6	MC	D-2	Q2C7	A-7			R2B2	C-6	R2H3			
C2034	C-6	C2D2	D-6	C2K9	D-7	C4B0	D-4	C5D0	D-5	D5B0	E-6	L2A2	D-6	MD	A-4	Q2C8	A-7			R2B3	C-6	R2H4			
C2035	C-6	C2D3	D-6	C2L0	C-7	C4B1	D-4	C5D1	B-1	D5B1	E-6	L2A3	D-6	ME	A-7	Q2D1	D-6			R2B4	D-6	R2H5			
C2036	B-4	C2D4	D-6	C2L1	D-7	C4B2	D-4	C5D2	B-1	D5B2	E-7	L2A4	D-6	MF	C-6	Q2D2	D-6			R2B5	D-6	R2H6			
C2037	B-5	C2D5	D-6	C2L2	D-7	C4B3	D-4	C5D3	D-4	D901	C-1	L2A5	D-6	MG	A-6	Q2D3	D-6			R2B6	D-6	R2H7			
C204	B-5	C2D8	D-6	C2L3	D-7	C4B4	A-2	C5D4	E-6	D903	C-1	L2A6	D-6	MH	A-5	Q2D4	C-7			R2B7	D-6	R2H8			
C2040	C-4	C2D9	C-6	C2L4	D-7	C4B5	E-2	C5D5	C-4	D904	C-1	L2A7	C-6	MJ	A-4	Q2D5	D-7			R2B8	D-6	R2H9			
C2041	C-4	C2E0	C-6	C2L5	D-6	C4B6	E-2	C5D6	C-3	D905	C-1	L2A8	A-6	MK	A-6	Q2D6	D-7			R2B9	D-6	R2J0			
C2042	C-3	C2E1	B-6	C2L6	D-6	C4B7	E-2	C5D7	C-2	D906	C-1	L2A9	A-6	ML	A-2	Q2D7	D-7			R2C0	D-6	R2J1			
C2043	C-3	C2E2	B-6	C2L7	C-6	C4B8	E-2	C5D8	C-6	D907	A-2	L2B0	A-5	MN	E-1	Q2D8	C-7			R2C1	D-6	R2J2			
C205	B-5	C2E3	B-6	C2L8	D-7	C4B9	A-3	C901	B-1	D908	C-1	L2B1	B-5	MP	A-6	Q2D9	D-7			R2C2	D-6	R2J3			
C206	B-4	C2E4	B-5	C2L9	D-6	C4C0	A-3	C902	B-1	D909	C-1	L2B2	C-6	MQ	A-3	Q2E0	D-6			R2C3	D-6	R2J4			
C207	B-4	C2E5	A-5	C2M0	D-6	C4C1	A-3	C903	B-1	D921	D-1	L2B3	B-6	MS	E-7	Q2E1	D-6			R2C5	D-6	R2J5			
C208	B-4	C2E6	A-6	C2M1	D-7	C4C2	A-3	C904	A-1	D922	D-1	L2B4	C-7			Q2E2	C-5			R2C6	D-6	R2J6			
C210	B-5	C2E7	A-6	C2Q0	A-5	C4C3	D-2	C907	D-1	D923	D-1	L2B5	B-6	PC901	D-1	Q2E3	C-5			R2C7	C-6	R2J7			
C211	B-5	C2E8	A-6	C2Q1	A-4	C4C4	D-2	C908	C-1	D924	E-1	L2B6	B-7	PC902	C-2	Q2F0	A-4			R2C8	C-6	R2J8			
C212	B-5	C2E9	A-5	C2Q2	A-4	C4C5	C-3	C911	B-1	D925	D-1	L2B7	B-7			Q3A0	B-3			R2C9	B-7	R2J9			
C213	B-5	C2F0	A-6	C2Q3	D-6	C4C6	C-2	C912	C-1	D926	D-1	L2B8	B-6			Q3A1	B-3			R2D0	B-6	R2K0			
C214	B-4	C2F1	A-6	C2Q4	C-7	C4C7	C-2	C913	C-1	D927	E-1	L2B9	B-7			Q3A2	B-3			R2D1	B-5	R2K1			
C215	B-5	C2F2	C-6	C2S1	D-6	C4C8	D-2	C914	C-1	D928	C-1	L2C0	B-7			Q2001	B-6			R2D2	B-5	R2K2			
C216	B-5	C2F3	C-6	C2S2	D-4	C4C9	D-4	C915	D-1			L2C1	B-6			Q2002	B-6			R2D3	A-5	R2K3			
C217	B-4	C2F4	C-6	C2S3	C-7	C4D0	D-4	C921	D-1	F901	B-1	L2C2	B-7			Q2004	B-4			R2D4	A-5	R2K4			
C218	B-4	C2F5	C-6	C3A0	B-3	C501	E-4	C922	D-1	F902	A-1	L2C3	B-7			Q2005	C-4			R2D5	A-5	R2K5			
C219	B-5	C2F6	C-6	C3A1	B-3	C502	E-3	C923	D-1			L2C4	A-6			Q2006	C-5			R2D6	A-6	R2K6			
																Q2007	C-5								
																Q2008	C-5								

BOL	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS		
	D-1	FC11	B-1	L2C5	A-6	Q2009	B-4	Q3B2	B-3	R2031	C-4	R2D7	A-6	R2K7	A-7	R3D2	B-3	R513	E-5	R5D9	D-3	R5K9	E-6	RJ30	B-4	TP2B	D-7														
	D-1	FC12	A-1	L2C6	A-7	Q2010	C-4	Q3B3	C-3	R2032	C-4	R2D8	A-5	R2K8	B-7	R3D3	B-3	R514	E-5	R5E0	D-3	R5L0	D-4	RJ31	D-4	TP2E	B-7														
	D-1	FC21	A-1	L2C7	A-4	Q2011	C-3	Q3B4	C-3	R2033	C-4	R2D9	A-5	R2K9	B-7	R3E5	C-3	R515	E-5	R5E1	D-3	R5L1	D-3	RJ32	B-4	TP2G	A-6														
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	D-2			L2C9	D-7	Q211	B-4	Q3B6	B-3	R2035	C-4	R2E1	A-5	R2L1	C-7	R3G0	C-2	R517	E-5	R5E3	D-3	R5L3	D-3	RJ34	B-4	TP2M	B-6														
	E-1	IC2001	B-6	L2D0	D-7	Q212	B-4	Q4A1	D-4	R2036	C-3	R2E2	B-6	R2L2	D-7	R3G5	C-3	R518	E-5	R5E4	E-5	R5L4	D-4	RJ35	D-3	TP2S	D-6														
	E-1	IC2002	B-4	L2D1	D-7	Q213	B-5	Q4A2	D-4	R2037	C-3	R2E3	B-6	R2L7	D-6	R3G9	B-3	R519	E-5	R5E5	E-5	R5L5	D-3	RJ36	B-3	TP3EF	B-3														
	D-2	IC2003	C-4	L2D2	D-6	Q214	B-5	Q4A3	D-4	R204	B-5	R2E4	B-6	R2L8	C-7	R3H0	B-3	R520	E-5	R5E6	E-5	R5L6	E-7	RJ37	B-3	TP3S	B-6														
	D-1	IC201	B-5	L2D3	D-7	Q215	B-5	Q5A1	D-5	R210	B-5	R2E5	B-6	R2L9	C-7	R3H1	B-3	R521	E-5	R5E7	D-5	R5L7	E-7	RJ38	D-3	TP4C	D-4														
		IC202	C-5	L2D4	D-6	Q216	B-5	Q5A2	D-5	R211	B-5	R2E6	B-6	R2M0	C-7	R3H2	B-3	R522	E-5	R5E8	D-5	R901	A-1	RJ39	B-3	TP5A	B-6														
	B-5	IC2A0	C-7	L2E1	A-6	Q2A0	C-5	Q5A3	D-5	R212	B-5	R2E7	B-6	R2M1	C-7	R3H4	B-3	R523	E-5	R5E9	D-4	R902	B-1	RJ40	B-3	TP5B	B-6														
	C-5	IC2A1	D-6	L2E2	D-7	Q2A1	C-5	Q5A4	D-5	R213	B-4	R2E8	B-6	R2M2	D-7	R3H5	B-3	R524	E-5	R5F0	D-4	R904	B-1	RJ41	B-3	TP5C	D-6														
	C-6	IC3A0	B-3	L2E8	D-6	Q2A2	C-5	Q5A5	C-6	R214	B-4	R2E9	B-6	R2M3	D-7	R3H6	A-3	R525	E-5	R5F1	D-4	R906	C-1	RJ42	C-3	TP5CS	E-5														
	C-3	IC4A0	A-2	L2S1	E-1	Q2A3	C-6	Q5A6	C-2	R215	B-4	R2F0	B-6	R2M4	D-7	R3H7	A-3	R526	E-4	R5F2	D-4	R907	C-1	RJ43	D-3	TP5DI	E-5														
	C-3	IC4A1	D-2	L2S2	C-3	Q2A4	C-6	Q5A7	B-2	R216	B-4	R2F1	A-6	R2M5	D-7	R3H8	B-3	R527	E-4	R5F3	D-5	R908	C-1	RJ44	C-2	TP5DO	E-5														
	A-2	IC501	E-4	L2S3	A-2	Q2A5	C-6	Q5A8	B-2	R217	B-5	R2F2	A-6	R2M6	D-7	R4A1	E-3	R528	E-4	R5F4	E-5	R909	C-1	RJ45	E-2	TP5ES	C-6														
	D-4	IC5A0	D-3	L2S6	A-3	Q2A6	C-6	Q5A9	B-2	R218	B-5	R2F3	B-5	R2M7	D-7	R4A2	A-4	R529	E-4	R5F5	E-5	R910	C-1	RJ46	E-2	TP5F	E-2														
	E-3	IC5A1	E-5	L2S7	A-4	Q2A7	D-6	Q5B0	D-3	R219	B-5	R2F4	C-6	R2M8	D-7	R4A3	A-4	R530	E-4	R5F6	E-5	R911	C-1	RJ47	D-1	TP5LC	D-4														
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	E-6	IC5A3	E-6	L2Z0	D-6	Q2A9	D-6	Q5B2	E-5	R221	B-4	R2F6	C-6	R2N0	C-6	R4A5	A-2	R532	E-4	R5F8	A-3	R913	B-1	RJ49	B-4	TP5LS	D-5														
	E-3	IC5A4	B-1	L3A0	B-2	Q2B0	B-6	Q5B3	A-3	R222	B-4	R2F7	B-6	R2N1	C-6	R4A6	A-2	R533	E-4	R5F9	A-3	R914	B-1	RJ50	E-3	TP5LT	D-3														
	E-3	IC901	C-1	L3A1	B-3	Q2B1	A-6	Q5B4	A-3	R223	B-5	R2F8	C-6	R2N2	C-7	R4A7	D-2	R534	E-4	R5G0	A-3	R921	D-1	RJ51	E-1	TP5P0	D-3														
	E-3	IC902	D-1	L501	E-3	Q2B2	B-6	Q5B5	A-3	R224	B-5	R2F9	C-6	R2N3	C-6	R4A8	D-2	R5A1	C-4	R5G1	A-3	R922	E-1	RJ52	E-6	TP5P1	D-3														
	E-2	IC904	D-2	L5A1	D-3	Q2B3	A-6	Q5B6	A-3	R225	B-5	R2G0	B-6	R2N4	D-7	R4A9	E-2	R5A2	D-5	R5G2	A-3	R923	E-1	RJ53	E-5	TP5P2	D-3														
	E-6	IC905	E-1	L5A2	D-3	Q2B4	B-6	Q5B7	A-3	R226	B-4	R2G1	C-7	R2N5	D-6	R4B0	E-2	R5A3	C-5	R5G3	A-3	R924	E-1	RJ54	E-6	TP5RI	D-5														
	E-6			L5A3	D-3	Q2B5	A-6	Q5B8	A-2	R2A0	C-7	R2G2	B-7	R2N6	D-6	R4B1	E-2	R5A4	D-5	R5G4	A-3	R925	D-1	RJ55	E-6	TP5RM	E-3														
	E-2	K901	A-1	L5A4	D-3	Q2B7	B-6	Q5B9	A-2	R2A1	C-7	R2G3	C-7	R2N7	D-6	R4B2	E-2	R5A5	D-3	R5G5	A-3	R926	D-1	RJ56	A-3	TP5SK	E-5														
	E-2			L5A5	E-3	Q2B8	C-6	Q5C0	E-7	R2A2	C-7	R2G4	C-7	R2N8	B-7	R4B3	E-2	R5A6	D-3	R5G6	A-3	R927	D-1	RJ57	A-3	TP5SS	C-2														
	E-3	L2002	B-5	L5A6	A-7	Q2B9	A-6	Q921	E-1	R2A3	C-7	R2G5	C-7	R2R5	A-5	R4B4	E-2	R5A7	D-3	R5G7	A-3	R928	D-1	RJ58	B-3	TP5SU	D-5														
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	D-5	L2005	B-4	L921	D-1	Q2C2	B-7			R2A7	C-6	R2G8	B-7	R2R8	A-4	R4B7	A-4	R5B0	E-1	R5H0	A-3	R931	E-1	RJ61	E-3	TP5X	E-1														
	D-4	L2006	B-5	L922	E-1	Q2C3	B-7			R2A8	C-7	R2G9	B-7	R2R9	D-6	R4B8	D-2	R5B1	E-2	R5H1	A-3	R932	E-1	RJ62	C-5	TP5Y	E-2														
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	D-5	L201	B-5	MA	A-3	Q2C5	B-7			R2B0	C-6	R2H1	A-6	R2S2	C-7	R4C0	C-2	R5B3	D-3	R5H3	A-2	R936	C-2	RJ64	A-7	TPRESET	C-3														
	D-3	L2A0	C-6	MB	A-1	Q2C6	A-6			R2B1	C-6	R2H2	A-6	R2S4	A-2	R4C1	D-2	R5B4	E-5	R5H4	A-3	R937	D-2	RJ65	A-6																
	D-5	L2A1	D-6	MC	D-2	Q2C7	A-7			R2B2	C-6	R2H3	A-6	R2S5	A-2	R4C2	C-2	R5B5	D-3	R5H5	A-3			RJ66	D-6	V5A0	E-5														
	E-6	L2A2	D-6	MD	A-4	Q2C8	A-7			R2B3	C-6	R2H4	A-6	R3A0	B-3	R4C3	D-2	R5B6	E-3	R5H6	A-2			RJ01	E-7																
	E-6	L2A3	D-6	ME	A-7	Q2D1	D-6			R2B4	D-6	R2H5	A-6	R3A1	A-3	R4C4	D-4	R5B7	D-3	R5H7	A-2			RJ02	C-7	RV901	A-1														
	E-7	L2A4	D-6	MF	C-6	Q2D2	D-6			R2B5	D-6	R2H6	B-6	R3A2	B-3	R4C5	D-4	R5B8	E-3	R5H8	A-2			RJ04	C-7																
	C-1	L2A5	D-6	MG	A-6	Q2D3	D-6			R2B6	D-6	R2H7	B-6	R3A3	C-3	R4C6	D-4	R5B9	E-3	R5H9	A-2			RJ05	B-4	S501	E-2														
	C-1	L2A6	D-6	MH	A-5	Q2D4	C-7			R2B7	D-6	R2H8	B-6	R3A4	B-3	R4C7	D-4	R5C0	E-3	R5J0	A-2			RJ06	C-7	S502	E-2														
	C-1	L2A7	C-6	MJ	A-4	Q2D5	D-7			R2B8	D-6	R2H9	B-7	R3A5	B-3	R4C8	D-4	R5C1	C-3	R5J1	A-2			RJ07	B-6	S503	E-2														
	C-1	L2A8	A-6	MK	A-6	Q2D6	D-7			R2B9	D-6	R2J0	B-6	R3A6	B-3	R4C9	D-4	R5C2	C-3	R5J2	A-2			RJ08	B-6	S504	E-1														
	C-1	L2A9	A-6	ML	A-2	Q2D7	D-7			R2C0	D-6	R2J1	B-6	R3A7	B-3	R4D0	D-4	R5C3	D-5	R5J3	E-7			RJ09	A-6	S505	E-1														
	A-2	L2B0	A-5	MN	E-1	Q2D8	C-7			R2C1	D-6	R2J2	B-7	R3A8	A-3	R4D1	D-4	R5C4	D-5	R5J4	E-7			RJ10	B-6	S506	E-1														
	C-1	L2B1	B-5	MP	A-6	Q2D9	D-7			R2C2	D-6	R2J3	B-7	R3A9	B-3	R4D2	D-3	R5C5	D-5	R5J5	E-3			RJ11	E-7	S507	E-1														
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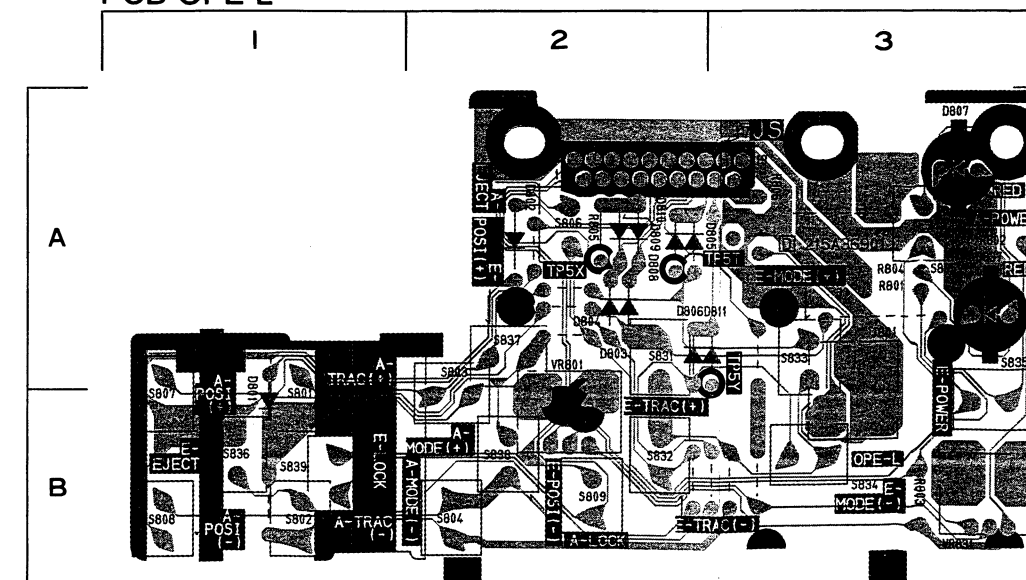
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C2505	A - 1	J7A1
C2506	A - 1	J7A2
C2507	B - 1	J901
C2508	B - 1	
C2509	B - 1	K2501
C301	B - 3	
C302	A - 3	KA
C303	B - 3	
C304	B - 4	L2501
C305	B - 4	L2502
C306	B - 3	L301
C307	B - 4	L7A1
C308	A - 4	L7A2
C309	B - 4	L7A3
C310	A - 4	L7A4
C311	A - 3	L7A5
C312	A - 3	L7A6
C313	A - 3	L7A7
		L7A8
		L7A9
D2501	A - 1	
D2502	B - 1	
		PB
IC300	A - 3	
		Q2501
J2A1	B - 2	Q2502
J2A2	B - 2	Q2503



PCB-OPE R

SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS
D851	A - 2	S883	B - 1
D852	A - 1	S884	A - 1
D853	A - 2	S885	B - 1
D854	A - 2	S886	A - 1
D855	A - 1	S887	A - 1
D856	A - 2	S888	A - 1
D857	A - 2	S889	A - 3
D858	A - 1	S890	A - 2
D859	A - 2	S891	A - 2
D860	A - 2	S892	A - 2
D863	B - 3		
JA	A - 1		
JE	B - 2		
JN	A - 2		
S851	A - 2		
S852	B - 3		
S853	B - 3		
S854	B - 1		
S855	B - 3		
S856	B - 2		
S857	B - 2		
S858	A - 2		
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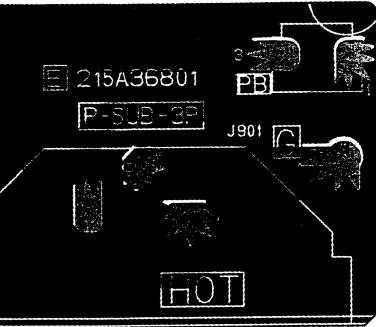
PCB-OPE L



HS-1024E
HS-1024E(B)

⑧

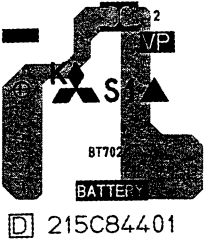
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PCB-POWER SUB

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C2502	A - 2	J2A4	B - 1			R7A1	B - 5
C2503	B - 2	J3A1	B - 3	R2501	B - 2	R7A2	B - 5
C2504	A - 1	J3A2	B - 4	R2502	B - 2	R7A3	B - 5
C2505	A - 1	J7A1	A - 2	R2503	B - 2	R7A4	B - 5
C2506	A - 1	J7A2	B - 4	R2504	B - 2		
C2507	B - 1	J901	B - 7	R2505	A - 2	RJ01	B - 2
C2508	B - 1			R2506	A - 1		
C2509	B - 1	K2501	A - 1	R2507	A - 1	RV7A1	A - 2
C301	B - 3			R2508	B - 1	RV7A2	A - 2
C302	A - 3	KA	B - 6	R2509	B - 1	RV7A3	A - 2
C303	B - 3			R2510	B - 1	RV7A4	A - 3
C304	B - 4	L2501	A - 3	R2511	B - 1	RV7A5	A - 3
C305	B - 4	L2502	A - 1	R301	B - 3	RV7A6	A - 3
C306	B - 3	L301	B - 3	R302	B - 4	RV7A7	A - 3
C307	B - 4	L7A1	B - 5	R303	B - 4	RV7A8	A - 4
C308	A - 4	L7A2	B - 5	R304	B - 4	RV7A9	A - 4
C309	B - 4	L7A3	B - 5	R305	B - 3		
C310	A - 4	L7A4	B - 5	R306	B - 4	S7A1	B - 1
C311	A - 3	L7A5	B - 5	R307	B - 3	S8A1	B - 6
C312	A - 3	L7A6	B - 5	R308	B - 3		
C313	A - 3	L7A7	B - 4	R309	A - 4	TJ	B - 3
		L7A8	B - 4	R310	B - 4	TK	B - 1
		L7A9	B - 4	R311	B - 3		
D2501	A - 1			R312	A - 4	TP20G	A - 2
D2502	B - 1			R313	B - 4	TP2J	A - 2
		PB	B - 8	R314	A - 4		
IC300	A - 3			R315	A - 3	TQ	B - 4
		Q2501	A - 2	R316	A - 3	TX	B - 1
J2A1	B - 2	Q2502	A - 1	R317	A - 3		
J2A2	B - 2	Q2503	B - 1				

PCB-BATTERY



PCB-OPE L

SYMBOL NO.	ADDRESS	SYMBOL NO.	ADDRESS
D801	B - 1	S807	B - 1
D802	A - 2	S808	B - 1
D803	A - 2	S809	B - 2
D804	A - 2	S831	A - 2
D805	A - 2	S832	B - 2
D806	A - 2	S833	A - 3
D807	A - 3	S834	B - 3
D808	A - 2	S835	B - 3
D809	A - 2	S836	B - 1
D810	A - 2	S837	A - 2
D811	A - 3	S838	B - 2
D837	A - 3	S839	B - 1
J801	B - 3	TP5T	A - 2
JS	A - 2	TP5X	A - 2
		TP5Y	B - 3
R801	A - 3	VR801	B - 2
R802	A - 3	VR831	B - 3
R803	B - 3		
R804	A - 3		
R805	A - 2		
R806	A - 3		
S801	B - 1		
S802	B - 1		
S803	B - 2		
S804	B - 2		
S805	A - 3		
S806	A - 2		

